NIMH Training Programs for Underrepresented Racial/Ethnic minorities

NIMH Interim Staff Report

Background/Introduction

Increasing minority participation in biomedical and behavioral research remains a high priority of the NIH/NIMH. The NIMH has sponsored a number of training programs over the years designed to increase racial and ethnic diversity within the mental health research investigator pool. (These programs are summarized on pages 3-5). Although representation of minority researchers has increased for some groups, the number of minority individuals who attain PhD's and other advanced degrees in biomedical/behavioral and clinical disciplines has remained disproportionately low. It is imperative that the focus be continued on increasing the number of researchers, who, while contributing to the scientific knowledge base that will inform health care interventions and health care policy, will serve as mentors and role models for future generations of investigators.

In line with the National Advisory Mental Health Council's continuing review of the Institute's various programs, (e.g. Genetics, Communication, Intramural Research, Child/Epi/ Services/ Prevention, Treatment & Services, Behavior and Social Science) the Council requested that the Institute set up a process by which it can gather and review information and data on the various NIMH minority- focused and other training activities that have, as part of their mandate, the training of underrepresented minorities. In addition, the Council asked that the Institute gather information on undergraduate minority training and institutions' infrastructure development programs that have been delegated to the National Institute of General Medical Sciences (NIGMS) to assess the impact this placement has had on these programs.

The NIMH Director asked that as a first step in this program review, a workshop be convened involving Council members, NIMH staff, especially those in charge of the various training activities, PI's on training grants for underrepresented minorities, successful junior and senior minority investigators, most of whom completed various minority focused training programs, and others interested in the area. Special guest participants included Dr. Harold C. Slavkin, Director of the National Institute of Dental and Craniofacial Research, who chaired the Committee for Recruitment of a Diverse Workforce in Medical Research, and representatives from the National Institute of General Medical Sciences. NIMH staff provided relevant historical and current data on the various programs.

On October 5, 1999 a workshop on NIMH Minority Training Programs was held at the Hyatt Regency Hotel in Bethesda, Maryland. It provided a forum for discussion of issues and problems relating to the NIMH goal of increasing the number of well-trained racial/ethnic minorities in areas relevant to mental health and mental illness. Attendees were asked to provide consensus opinions or recommendations. Specific objectives were to obtain 1) information, data and a range of expert opinions regarding the progress of NIMH training of racial/ethnic minorities, 2) information regarding training in the biomedical sciences nationally, and 3) expert opinions on possible actions to be taken. During the overall minority training programs assessment NIMH hopes to determine if the distribution of trainees across the scientific disciplines covered in the funded Underrepresented Minority Fellowship Programs (UMFPs) is sufficient to address current and future research needs and consider alternative approaches and mechanisms for attaining minority training objectives. NIMH professional staff has delineated some recommendations based on the discussions and information presented at the workshop as well as data and opinions obtained from other sources. Because information generated for workshop purposes proved to be quite comprehensive and promises to be relevant to many people and organizations throughout the nation, we are pleased to post a summary of the proceedings on the NIMH Home Page at http://www.nimh.nih.gov/research/confsummaries.cfm. One participating Council member summed up his thoughts about the workshop as follows:

"What struck me was that all the panels, regardless of their topic, discussed the same issue, and that was how to measure the success of the programs and that is not an issue that is specific to NIMH or all the disciplines represented here. It is an issue for education, in general. … The discussion here has been very important because it focused on that issue. I would hope that the next step not only would be culling together all of the information collected here, and the issuance of a report, but also the development of a process that would lead to a mechanism to answer some of those questions that are central to the educational enterprise for minorities, in general: recommendations that can go beyond the NIMH to the entire NIH and then further than that."

During this ongoing programs review an attempt was also be made to get an estimate of the number of minorities being trained under the regular NRSA Institutional Training (T32) Grants, whose awards in FY 1999 totaled around $5.2 million. Since adequacy of plans to include minorities in these training programs is a peer review consideration, funded institutions are expected to show progress in this area. Attempts will also be made to determine the number of minority principal investigators on regular NRSA T32 grants and the number of these grants made to Historically Black Colleges and Universities.

Broad Training Issues

The NIMH has in place minority focused training mechanisms ranging from high school and undergraduate support to specialized programs for pre and postdoctoral fellows to junior minority faculty and investigators. To aid in understanding progress, PIs on various training mechanisms have provided data and anecdotal information that indicate how many trainees enter and complete the various programs, and though incomplete, data that give some sense of how many tend to succeed in obtaining advanced training and students' post-training research and other professional activities. At the October 5 Minority Training Workshop P.I.s and other participants discussed possible ways to improve outcomes including alternative approaches to research training. They reported benefits they believe have accrued from these training efforts that heretofore, have not been fully recognized, acknowledged and/or rewarded (e.g., research conducted in industry, private foundations, Federal, or other research programs, teaching, academic administration, health service, etc.) By doing so, they attempted to define "success" for the programs.

The Institute has issued an Underrepresented Minorities Fellowship Program (UMFP) omnibus Request for Applications (RFA) updating the announcements for minority fellowship programs. This RFA allows for training in more mental health relevant disciplines than those traditionally supported, and the hope is that it will attract additional organizations/institutions to compete for these training funds. The existing UMFP programs are variable in their ability to manage national training efforts. The RFA was designed to permit clustering of the competing applications in peer review so that reviewers can compare the competing programs. Previously applications came in singularly and were reviewed with no basis of comparison with other programs. The pros and cons of this omnibus approach, following the results of the RFA competition, will be revisited during the course of the programs assessment.

While this initial assessment focuses on minority programs funded by the NIMH, is it important to keep the current Federal perspective on training in mind. The NIH/NIMH is obligated not just to think in terms of quota numbers, or a need to double percentages, etc., because the country's workforce, regardless of ethnicity, is getting smaller in the sciences. This is a national problem and therefore, it requires a systemic, national solution. The activity described in this interim report is but a start in assessing the progress and developing ways to strengthen NIMH programs aimed at increasing the number of underrepresented racial/ethnic minorities in biomedical, behavior research. This NIMH staff report summarizes the activities and progress of the various training programs to date, provides staff recommendations for consideration, proposes more long term issues that need further consideration, and suggests the next steps in this programs assessment process.

Programs Considered

PAR-95-045: NIMH Career Opportunities in Research (COR) Honors Undergraduate Research Training Grant (T34) --The principal objectives of this program are to increase the number of well prepared undergraduate students from institutions with substantial minority enrollments who can successfully compete for entry into research career training programs leading to doctoral level or M.D. research careers in mental health; and to develop and strengthen biomedical, behavioral, neuroscience, epidemiology, prevention, and/or public health curricula and research training opportunities at institutions with substantial minority enrollments in order to prepare students for research careers related to mental health.

PAR-95-046: NIMH Career Opportunities in Research (COR) Honors High School Research Education Grant (R25) --The principal objective of this program is to stimulate interest and motivation among high school students from racial/ethnic minority groups to pursue careers in science disciplines related to mental health research.

PAR-95-058: Minority Research Infrastructure Support Program (M-RISP) (R24--The principal objectives of this program are to strengthen the research environments of minority institutions through grant support to develop and/or expand existing capacities for conducting research in all fields related to mental health; and to support individual investigators to conduct small grant research activities that can lead to successful applications for funding under regular research grant mechanisms. (Undergraduate and graduate students may serve as research apprentices in the laboratories of funded investigators.)

PA-99-104: Research Supplements for Underrepresented Minorities-- The aim of the supplements is to attract and encourage underrepresented minorities to enter and pursue biomedical and behavioral research careers in areas relevant to the mission of the NIH. The program will provide funding at several different stages in a research career: high school students, undergraduate students, graduate research assistants, individuals in postdoctoral training, and research investigators.

PAR-95-040: Scientist Development Award for New Minority Faculty (K01)-- The purpose of this program is to enable new minority faculty to have the necessary time and assistance early in their academic careers to initiate a program of research and to help them to become outstanding independent investigators in mental health research. The many demands on the time of a new ethnic/minority faculty member may make the orderly initiation of a research program so difficult that it becomes a casualty of other activities, to the detriment of career development and advancement. It is hoped that this award, geared for a specific time in career development, will assist in enhancing the research capability and progress of its beneficiaries.

PAR-99-057: Underrepresented Minority Fellowship Program in Psychiatry (T32)--The purpose of this program is to increase the number of minority scientists trained to perform research in mental health, particularly in the areas of patient oriented research, by supporting a national program of recruitment and training in outstanding research programs across the nation. This announcement encourages applications to support the development and training of underrepresented minority psychiatrists, including the recruitment of medical student and residents, to undertake active, productive careers in mental health research.

Note: The announcements designated as "old" below are included because the information and data on programs covered in the report were submitted under these guidelines.

Old MH-98-001: Minority Research Fellowship Program in Mental Health Nursing (T32) (Replaced by new omnibus RFA MH-00-001)* The original aim of this training program in mental health nursing was to support the development and training of underrepresented minority individuals in doctoral programs to enable them to undertake productive research careers in mental health and mental disorders. The program, run by the American Nurses Association terminated in 1996. In FY 1999 applications could be submitted under RFA-MH-98-001.

Old MH-93-009: Minority Research Fellowship Program in Social Work and Minority Research Fellowship Program in Sociology (T32) (Replaced by new omnibus RFA: MH-00-001)* This dual announcement of a Minority Research Fellowship Program (MRFP) in Sociology and an MRFP in Social Work was to encourage applications designed to support the development and training of individuals in doctoral programs in sociology and social work to enable them to undertake active, productive careers in scientific investigations related to mental health and mental illness. (In FY 1999 applicants could submit under RFA-MH-00-001).

Old MH-90-21: Minority Research Fellowship in Psychology (T32). The goal of this program was to enable minority investigators to undertake active, productive careers in scientific investigations related to mental health and mental illness, especially in the field of Psychology. Competing continuation applications must address a new announcement.

Old MH-91-01: Minority Fellowships for Doctoral and/or Postdoctoral Training in Neuroscience (T32) The goal of this program was to enable minority investigators to undertake active, productive careers in scientific investigations related to mental health and mental illness, especially in the field of Neuroscience. Competing continuations must address a new announcement.

PA-95-029: Pre-doctoral Fellowship Awards for Minority Students (F31)--This is a program announcement (PA) from the National Institutes of Health (NIH) for National Research Service Award (NRSA) Individual Pre-doctoral Fellowships for Minority Students. The intent is to encourage students from ethnic/minority groups that are underrepresented in the biomedical and behavioral sciences to seek graduate degrees and thus further the goal of increasing the number of minority scientists who are prepared to pursue careers in biomedical and behavioral research.

PAR-99-139: Underrepresented Minority Dissertation Research Grants in Mental Health (R03) The purpose of this program announcement is to stimulate and encourage underrepresented minority doctoral candidates to pursue research careers in any area relevant to mental health.

***Omnibus RFA: MH-00-001**: Underrepresented Minority Fellowship Programs in Mental Health (T32)--The purpose of this new RFA is to encourage National Research Service Award institutional training grant (T32) applications designed to support the recruitment into, and training of individuals in doctoral programs in areas relevant to the mission of the NIMH. The main focus is in pre-doctoral training, however, a small postdoctoral component may be proposed if strongly justified. The goal is to enable minority investigators to undertake active, productive, careers in scientific investigations related to mental health and mental illness. It is expected that the UMFP will help train future scientists with state of the art research skills in cutting edge science and a commitment to research in their chosen mental health related field.

NIH National Research Service Award Institutional Research Training Grants (T32)--The National Institutes of Health (NIH) will award National Research Service Award (NRSA) Institutional Training Grants to eligible institutions to develop or enhance research training opportunities for individuals, selected by the institution, who are training for careers in specified areas of biomedical and behavioral research. The purpose of the program is to help ensure that a diverse and highly trained workforce is available to assume leadership roles related to the Nation's biomedical and behavioral research agenda. Accordingly, the program supports pre-doctoral, post-doctoral, and short-term research training experiences.

PROGRESS

COR Honors Undergraduate, Honors High School Research Education and M-RISP Programs

The COR Undergraduate (T34) Training Program began in 1979. Data from all principal investigators as of October 1999 suggest that a total of 895 trainees have completed training and 540 (60 %) have completed graduate school. The High School Honors COR (R25) Program began in 1994. At the time of this report, 72 students have completed the program and all (100%) entered college: 12 (17%) have graduated from College. The remainder is still in college. The M-RISP (R24) Program began in 1989. Sixty nine (69) graduate and 62 undergraduate students have apprenticed under this program. The table below shows the number of new and continuing programs and dollars awarded to these programs 1995-1998. (Since the M-RISP is not a training program per se, it will not be discussed in further detail). Table 1 shows the number of active grants and the dollars awarded to them for the years 1995-1998.

Table 1: Active Grants by Mechanism 1995-1998, Office of Special Populations

Fiscal Yr	COR (T34) (N) $s Awarded	COR Hi Sch (R25) (N) $s awarded	M-RISP (R24) (N) $s Awarded	TOT. $s.
1998	(15) 2,528,539	(7) 320,844	(8) 2,781,191	5,630,574
1997	(13) 2,052,651	(6) 249,016	(7) 3,367,119	5,668,786
1996	(13) 1,890,847	(3) 123,853	(7) 2,903,255	4,917,955
1995	12 1,723,928	(3) 69,984	(8) 3,171,535	4,965,447

COR Undergraduate and High School Programs' Characteristics

Typically, the undergraduate COR (defined on page 3) programs recruit junior and senior majors in psychology, biology, chemistry, sociology, social work with a few in anthropology and education, who maintain a 3.0 or better GPA on a 4.0 scale. Each program has a special COR curriculum with 20+ hours of required coursework in addition to the regular required courses for the college program degree. In addition students conduct research projects under supervision of faculty mentors, present oral and poster presentations at scientific meetings and participate in summer research internships and special enrichment activities, sometimes at other institutions. Trainees experience co-curricular activities such as research seminars and workshops, GRE training, and extensive academic and career counseling. Data on all trainees beyond the bachelors degree are not complete since programs lack formal tracking and evaluation systems. The high school component of COR provides an opportunity for institutions funded for an undergraduate training grant to offer mentoring and role modeling of up to six racial/ethnic minority high school students per year through interactions with both undergraduate COR students and faculty of institutions having COR Honors Undergraduate Training grants. Outcomes of 11 COR undergraduate programs are presented below in Table 2. (Four others are just beginning and therefore are not included). The ages of the programs range from 4-20 years, with 10 having been in operation more than 10 years.

Outcomes

The available undergraduate COR Program data, (Table 2) although incomplete, show the number of students entering and completing the 11 programs presented as well as some sense of the distribution of

trainees who have graduated in terms of: 1) the number known to have entered and/or completed advanced degree programs; 2) the types of advanced degrees they earned and 3) the number currently in graduate or medical school. The numbers indicate that an average of 5 trainees enter per year and 5 complete each program. An average of eighty-five (85%) (719/844) percent of trainees who entered the programs in question have graduated (range 69-100%) as of October 1999. Of 290 (excluding the 4-year old program) graduates (out of a total of 719) known to have obtained specific advanced degrees, 39% (N=113) received the Ph.D., 14 % (N=42) received the MD and 41% (N=120) received the Masters. The remaining 5% (N=15) received miscellaneous professional degrees (DDS, JD, DSW). Principal Investigators on five of these programs report being aware of 125 or 17% of COR graduates who are currently in graduate or medical training as of October 1999. (One would assume that others, not known about, are somewhere in the advanced degree pipeline). Using all graduates as the denominator, 16% (113/719) are known to have earned the Ph.D., 6% (42/719) the MD (or MD/. PhD), 17% (120/719) the MA/s, and 2% (15/719) other degrees. PIs also reported that many trainees who obtain the Masters Degree tend later to return and complete the Doctorate, MD or other degrees, after having worked for some time.

In general, the success rate for entering and graduating COR bachelors degree students is impressive. The available statistics indicating how many students go on to pursue advanced degrees is likewise encouraging, even in the absence of complete data. Note that for three programs reporting, (Institutions A, E and H) a large proportion of graduates (71%, 81%-96%, respectively) are known to have been accepted into graduate school, but their final dispositions are not known. In addition, although the numbers are small, (N=88) as reported above, similar positive outcomes hold true for the 7 high school COR programs, in terms of students entering and completing college: 99% have entered college and 87% have graduated (as of October, 1999) and those who have not yet graduated are still in college. Improved student tracking will help complete the trainee outcome picture.

Table 2: Statistical Indicators of Progress by Undergraduate COR Programs

Inst	Prog.age	#ent	#grad (%)	# adv deg. %	# accpt to grad sch (%)	# earned degree (%)				# curr grad/med sch (%)
						PhD	MD	MA/S	Other	
A	18	74	59(79)	27(46)	48(81)	3(5)	4(7)	17(29)	3(5)	12(16)
B	10	53	39(73)	15(38)	?	9(23)	--	--	6(JD, DDS DSW)	--
C	14	64	44(70)	22(50)	?	12(27)	5(11)*	4(9)	1	--
D	4	26	8(31)	Program too new to assess						--
E	20	98	97(99)	36(37)	69(71)	16(16)	--	20(21)	--	20(21)
F	10	52	36(69)	16(44)	?	1(3)	1(3)	12(33)	2(JD & DDS)	--
G	17	78	67(86)	13(19)	?	6(9)	7(10)	--	--	--
H	20	117	112(96)	62(55)	107(96)	34(30)	3(3)	22(20)	3(3)	44(39)
I	15	62	62(100)	45(73)	?	17(27)	11(18)	17(27)	--	9(14)
J	18	86	77(90)	23(30)	Information Not Provided					--
K	20	134	118(88)	54(50)	?	15(13)	11(10)	28(26)	--	40(34)**
tot		844	719(85)	313(43)	?	113(16)	42(6)	120(17)	15(2)	125(17)

* All MD/PHD

**2 of these are in medical school.

COR Graduates' Long Range Professional Activities/Aspirations: Deterrents to Pursuing a Research Career

COR program leaders report that many undergraduates are excited about the opportunities offered by the program but they do not fully understand what a research career entails. Consequently, even some of those who go on to graduate school become disillusioned and drop out. For minority students, and especially those who have dependents, financial constraints often dictate that they work for several years prior to going on for advanced degrees. This is especially true for many who make it to the Masters Degree. As the preceding table shows, a large proportion of COR graduates earn Masters Degrees.

COR Principal Investigators also note that career advancement has become increasingly more difficult in many respects, for all students, not just minority students. Getting into graduate school is more difficult and getting out is even harder. The length of time it takes to complete the PhD is a deterrent for many students, especially when they learn how difficult it is to get an academic position and after that, tenure. Once they get an academic position, they learn how difficult it is to obtain research funding.

On the other hand, according to some numbers and anecdotal reports from COR Principal Investigators, the majority of the trainees who have been successfully tracked through their graduate training and beyond, are in academic (teaching) settings. The second largest group is employed in academic/research environments followed by industry. The "other" category trails behind government with few defining what that means. Program leaders estimate, however, that the number of individuals who have obtained research support from PHS and other federal entities and private sources is relatively low. Some individuals are able to obtain funds from private foundations, their own institutions and other sources to support research projects, which allow student participation. Many publish despite the fact that they may not have an R01 or similar research grant.

Defining "Success" for High School and Undergraduate Training Programs

The COR Programs graduating high percentages of students who also enter and complete further research training tend to have enthusiastic and highly motivated faculty, usually multi-ethnic, who themselves are engaged in some form of research. These programs offer expanded curricula (involving multiple departments), supplemented with on- and off- campus research and didactic experiences that create a climate of scientific enquiry the also embraces non-COR students. These programs require trainee attendance and presentations at local, regional, and national scientific meetings, independent research projects, and they also offer intense career and academic counseling and communications skills development. A sizeable number co-author publications with their mentors in reputable scientific journals. Hence, they are already contributing scientifically to mental health related science at this stage of their training. However, the COR training directors caution that judging success of a program can and should be done at many levels using many criteria. They emphasize this because COR programs at different institutions are unique, and should be evaluated for their unique contributions and not compared with each other or judged against mainstream programs. For example, they point out that for many minority students, just finishing college is a major milestone; expecting these students to aspire beyond this to a research grant at this stage might be asking too much. Furthermore, it is not clear what the data would show with regard to non-minority college graduates in this regard. Data to shed light on this question will be released in the near future.

Looking at the point of graduation from the COR programs, the picture reflects that 85% or more complete the program, greater than 40% of those completing COR are known to have earned advanced degrees, and many others are still in graduate training. What is needed to ensure that students continue along the research career trajectory requires more focused attention and effort from both the Federal granting organizations as well as those in charge with student training and mentoring. PIs and other participants in the October Workshop expressed the opinion that it is probably not reasonable to expect undergraduate students to commit to long-range plans for a research career. In fact they believe the kind of outcomes witnessed in the COR are outstanding, especially in the absence of more clearly defined and communicated

vertical and horizontal career development support options. At this level, the incentives for pursuing a research career are not clear to students. NIMH/NIH need to work with training institutions to help educate young people about the positive and exciting aspects of scientific pursuit.

The Need The Need for Added Incentives to Stay the Course

Participants at the Minority Training Workshop, which included five COR PIs, discussed several things the Institute might consider to encourage trainees at the high school, but particularly at the undergraduate level, to maintain an interest in, and pursue a research career:

Seven of the 15 undergraduate COR programs also have a high school component. This extends the pipeline downward to possible feeder programs for the college component. However, there are no described linkages spelled out at the NIH/NIMH levels to allow successful high school trainees direct access to the undergraduate programs, and beyond that level, there are no described linkages between these lower level training programs and the higher level training programs:

- Underrepresented Minority Fellowship Programs (MFPs)
- Individual Pre-doctoral Fellowships (F31) for Minorities
- Minority Dissertation (R03) Grants
- Minority Supplements (for undergraduates, post docs, graduate research assistants, and junior investigators; and
- Career Awards for New Minority Faculty (K01)

The NIMH funds the programs cited above but other linkages might also be possible, given the variety and number of minority programs at other NIH Institutes (especially the NIGMS) whose science overlaps with that of the NIMH (and vice versa).

Recommendation: Develop new and flexible initiatives (Program Announcement and Requests for Applications) co-sponsored across institutes to help increase options for vertical and horizontal program linkages in the scientific training community.

Recommendation: Assess whether increased use of other specialized initiatives (e.g., 5-6 week summer training programs (R25) with cohorts of students) would further expand the pipeline to a broader base of high school and undergraduate students

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Research Supplements for Underrepresented Minorities

The Minority Research Supplements were instituted in 1988. Table 1 below summarizes the NIMH support of non-aids minority supplements for the fiscal years 1995 –1997. The five career levels of recipients for these supplements are shown in this table. Congruent with the overall NIH pattern in terms of number of awards made to the career levels of recipients, (Table 4) NIMH makes awards to pre-doctoral fellows, post-doctoral fellows, young investigators, college and high school students. The IC exceptions to this pattern in FY 1998 were NIDDK and NIAID who awarded more post-doctoral than pre-doctoral fellowships.

Table 2 shows race/ethnicity and gender of the NIMH minority trainees over the same years. Typically, for Blacks and Hispanics, females outnumber males. This is true for the number submitting and the number awarded. FY 1998 is fairly typical of the spread of trainees. For NIMH in 1998, 78/113 (69%) of awardees were female and 31% male for the same year, 43% of appointees were Black, 36% Hispanic, 3.5% Native Americans, 5.3% Pacific Islander, and 6% were Asian Americans; .8% were unknown. Table 6 shows racial/ethnic classification of individuals appointed to minority supplements NIH-wide (all awards, new and competing).

Table 3 shows the number of new applications for supplements NIH-wide, received and awarded FY 1998. NIMH received 51 applications and all were awarded. In terms of expenditures for minority supplements as a percentage of eligible research grants, NIMH ranks second among all NIH institutes and centers at 1.08% (Table 5)

Table 1: NIMH Minority Supplements (Dollars in thousands)

	FY 1995		FY 1996		FY 1997	
Career	Number	Amount	Number	Amount	Number	Amount
High School	3	9	1	3	0	0
Undergraduate	10	140	5	78	6	74
Graduate Res. Assist.	38	1,351	29	1,232	50	1,529
Individual in Postdoc.	23	1,204	24	1,301	25	1,340
Investigators	28	1,884	27	1,682	19	1,061
Total:	102	$4,588	86	$4,296	100	$4,004

Table 2: Race/Ethnicity

	FY 1995		FY 1996		FY 1997	
	Male	Female	Male	Female	Male	Female
Black	13	30	13	30	14	35
Hispanic	9	25	5	18	11	22
Native American	2	4	3	1	2	1
Asian American	4	5	2	7	3	4
Pacific Islander	2	4	2	2	2	3
Haitian	1	0	1	0	0	0
Indian	0	3	0	1	0	0
Other	0	0	1	0	2	1
Total:	31	71	27	59	34	66

Table 3: Number Of New Applications for Minority Supplements Received and Awarded NIH-Wide, FY 1998

	Applications Received	Applications Awarded	Percent Awarded
NCRR	3	3	100%
NEI	12	12	100%
NHGRI	3	3	100%
NIAAA	6	6	100%
NIDCR	12	12	100%
NIEHS	3	3	100%
NIMH	51	51	100%
NLM	1	1	100%
FIC	1	1	100%
NINDS	16	16	100%
NIDCD	19	18	95%
NIDDK	46	41	89%
NHLBI	78	67	86%
NIGMS	97	83	86%
NIAID	46	39	85%
NICHD	31	26	84%
NIAMS	22	18	82%
NIDA	44	35	80%
NIA	43	30	70%
NINR	8	5	63%
NCI	81	44	54%
TOTAL	623	514	83%

Table 4 Career Levels Of Individuals Appointed To Minority Supplements NIH-Wide (All Awards, New & Competing)-Fiscal Year 1998

	High School	College	Predoc	Postdoc	Investigator	TOTAL
NHLBI	11	25	48	50	31	165
NIGMS	0	27	71	39	6	143
NIMH	0	9	47	37	20	113
NIDDK	3	14	27	50	16	110
NIAID	3	13	52	30	10	108
NCI	1	6	23	35	18	83
NIDA	0	4	36	14	13	67
NIA	0	0	23	22	17	62
NICHD	1	11	23	16	10	61
NINDS	0	5	24	13	11	53
NIDCD	3	5	18	11	0	37
NIAMS	8	7	9	4	6	34
NIDCR	1	2	12	7	10	32
NEI	1	6	10	8	3	28
NIAAA	0	4	0	5	3	12
NIEHS	0	1	3	4	4	12
NINR	0	1	3	0	5	9
NCRR	0	1	1	3	1	6
NHGRI	0	0	0	2	1	3
FIC	0	0	1	0	0	1
NLM	0	0	0	0	1	1
TOTAL	32	141	431	350	186	1,140

Table 5: Expenditures For Minority Supplements as a Percentage of Eligible Research Grants by Institute or Center (FY 1998)

	Minority Supplements	Eligible Research Grants	Percent
FIC	$108,000	$6,845,176	1.58
NIMH	$5,455,246	$502,969,702	1.08
NIDCR	$1,342,099	$138,932,804	0.97
NIA	$2,960,601	$389,054,001	0.76
NINR	$388,712	$51,373,799	0.76
NIDA	$2,709,707	$369,363,717	0.73
NIDDK	$4,545,738	$686,677,427	0.66
NIGMS	$5,349,970	$842,521,145	0.63
NHLBI	$7,043,082	$1,123,095,819	0.63
NIDCD	$833,125	$152,916,733	0.54
NLM	$79,818	$15,355,401	0.52
NICHD	$2,042,211	$437,202,174	0.47
NIAMS	$993,265	$215,105,761	0.46
NIAID	$3,498,841	$927,391,809	0.38
NEI	$1,064,047	$282,467,896	0.38
NIEHS	$492,857	$136,208,871	0.36
NINDS	$2,022,318	$588,072,995	0.34
NCI	$4,002,825	$1,501,909,621	0.27
NIAAA	$363,757	$167,886,842	0.22
NCRR	$300,512	$179,320,772	0.17
NHGRI	$66,409	$155,445,233	0.04
TOTAL	$45,663,140	$8,870,117,698	0.51

Table 6: Racial/Ethnic Classification Of Individuals Appointed To Minority Supplements (All Awarded, New & Continuing) FY 1998

	African American	Hispanic	Native American	Pacific Islander	Other	TOTAL
NHLBI	100	56	8	1	0	165
NIGMS	68	61	4	7	3	143
NIMH	49	41	4	6	13	113
NIDDK	53	50	3	4	0	110
NIAID	60	42	1	4	1	108
NCI	45	32	3	3	0	83
NIDA	39	21	0	7	0	67
NIA	30	24	1	2	5	62
NICHD	25	30	2	4	0	61
NINDS	23	22	2	3	3	53
NIDCD	16	19	2	0	0	37
NIAMS	18	15	0	1	0	34
NIDCR	21	9	0	2	0	32
NEI	18	7	2	1	0	28
NIAAA	8	4	0	0	0	12
NIEHS	7	5	0	0	0	12
NINR	7	0	0	2	0	9
NCRR	4	2	0	0	0	6
NHGRI	2	0	0	0	1	3
FIC	0	0	0	0	1	1
NLM	1	0	0	0	0	1
TOTAL	594	440	32	47	27	1,140

Areas of Science Addressed by Minority Supplements

The areas of science being pursued under current supplements within two divisions were cursorily examined. In the Division of Services and Intervention Research, (DSIR) supplements are roughly equally represented in the areas of adult treatment, child treatment and services research. In the Division of Neuroscience and Basic Behavioral Science (DNBBS) the supplements cluster on the higher end in terms of number of awards, in the area of molecular and cellular neuroscience, secondly in the area of behavioral and integrative neuroscience and thirdly in genetics. The areas of translational and behavioral research have the fewest active supplements. (A similar breakout was not available for the Division of Mental Disorders Behavior and AIDS). In summary, the NIMH has a highly active minority supplement program, especially when compared to other NIH Institutes and the proportion of the research budget allocated to these awards.

Recommendation: Follow-up trainees on Minority Research Supplements to determine if they continue to pursue research in mental health related areas and provide education and outreach to investigators on these supplements to make sure they are aware of career development funding opportunities.

Individual Pre-doctoral Fellowship Awards for Minorities (F31)

The announcement of this program was first made in 1995. Few applications have been received to date and only one has been awarded. It appears that this mechanism is not attracting applicants.

Recommendation: Hold technical assistance workshops to better inform the research community (potential mentors) about the Individual Pre-doctoral Fellowship Award for Minorities (F31) mechanism and encourage potential applicants to take advantage of it.

Recommendation: Assess if there are ways to link the COR programs (undergraduates) with the Minority F31 mechanism in a way that can further insure that the trainees move from the baccalaureate degree to this pre-doc training mechanism.

Underrepresented Minority Dissertation Research Grants (R03)

This program began in 1994. Awards have been made by all three program divisions and the center for AIDS. The first two awards were made in 1995. The following number of grants and dollars have been awarded in years FY 95-99:

1995 (N = 2: $ 44,090)
1996 (N = 4: 97,196)
1997 (N = 4: 92,898)
1998 (N = 2: 50,046)
1999 (N = 5: 108,418)

Recommendation: Minority Dissertation Grants could serve as an important bridge between the COR undergraduate training programs, minority supplements for undergraduates and graduate research assistants and graduate training programs: The institute should assess whether creative links can be made within existing policy.

Career Development Awards

The Scientist Development Award for New Minority Faculty (K01) began in 1995. The first awards were made in 1997. Several technical assistance workshops and RFAs have been issued recently which have resulted in a heightened interest on the part of potential trainees to pursue this mechanism. The number of awards is increasing. Scientist Development Awards for new Minority Faculty have been issued as follows from 1997-1999::

1997 (**N=5**: $629,060);1998 (**N=8**: $1,049,828); 1999 (**N=11**: $1,414.643)

Recommendation: NIMH should more proactively market the KO1 for new minority faculty to increase the use of the mechanism.

Minorities Trained on Regular NRSA T32s

As of October 31, 1999, the Institute supported a total of 186 Regular NRSA Institutional Training Grants (T32). The numbers by Division are Division of Mental Disorders Behavioral Research and AIDS (DMDBA) = 60 (13 of those were for AIDs research training); Division of Neuroscience and Basic Behavioral Science (DNBBS) = 90; Division of Intervention and Services Research (DSIR) = 36. In the order cited these divisions support numbers of T32 Minority Fellowship Programs as follows: 1, 2 and 3. Information regarding race/ethnicity of trainees on regular T32s is difficult to obtain. Access to the racial/ethnic identity information on individual trainees is not available to staff. However, a review of each of the 186 grant applications can yield aggregate numbers of trainees on each grant but even then, the information is not up to date for the last 12 months since P. I.s estimate the ethnic/racial makeup of projected trainees. Nonetheless, each Division obtained racial/ethnicity information on fellows for FY 1998 funded T32s. Below, for each division Table 1 shows the number and percentage of racial/ethnic minority trainees on regular T32s alone. Data shown in Table 2 combine the trainees on the Minority Fellowship Training Grants with those on the regular T32s to show the impact of the former programs' contributions to the overall trainee profile.

Table 1. Distribution of T32 Trainees by Race/Ethnicity, FY 1998 (excluding MFP programs)

Race/Ethnicity Data	DNBBS		DMDBA		DSIR		NIMH Total	
	Number	%	Number	%	Number	%	Number	%
African American	13	3.6%	13	4. 9%	14	6.3%	40	4.7%
Hispanic	10	2.8%	11	4.1%	9	4.1%	30	3.6%
Asian/Pacific Islander/Hawaiian	22	6.2%	20	7.5%	17	7.7%	59	7.0%
American Indian/Alaskan Native	1	0.3%	0	0.0%	5	2.2%	6	0.7%
Total Underrepresented	46	12.9%	45	16.5%	45	20.3%	136	16.0%
Caucasian	257	72.2%	183	68.8%	177	79.7%	617	73.1%
Unknown/Not Report./Withheld	53	14.9%	39	14.7%	----	----	92	10.9%
Total Trainees	356	100%	266	100%	222	100%	844	100%

Table 2. Distribution of T32 Trainees by Race/Ethnicity, FY 1998 (including MFP Programs)

Race/Ethnicity Data	DNBBS		DMDBA		DSIR		NIMH Total	
	Number	%	Number	%	Number	%	Number	%
African American	31	8.1%	23	8.0%	46	16.9%	100	10.6%
Hispanic	19	5.0%	17	5.9%	16	5.9%	52	5.5%
Asian/Pacific Islander/Hawaiian	22	5.7%	22	7.7%	26	10.0%	70	7.5%
American Indian/Alaskan Native	2	0.5%	0	0.0%	6	2.2%	8	0.8%
Total Underrepresented	74	19.3%	62	21.6%	94	35.0%	230	24.4%
Caucasian	257	66.9%	184	64.1%	177	65.0%	618	65.6%
Unknown/Not Reported/Withheld	53	13.8%	41	14.3%	----	----	94	10.0%
Total Trainees	384	100%	287	100%	271	100%	942	100%

*Trainee information was confirmed through phone conversation between Project Officer and PIs.

About 25% of the U. S. population is minority. Equal opportunity would imply that about 25% of our trainees and fellows would be minority persons. When only the regular T32 research training programs are considered, representation of total NIMH supported is 16%. (20%, 17% and 13% for DSIR, DMDBA and DNBBS, respectively). When the total number of pre-and post doctoral NIMH trainees supported by the regular research training programs and the UMFP programs are considered, the percentage becomes 24.4% (35%, 22% and 19% for DSIR, DMDBA and DNBBS, respectively). This represents a14% increase for DSIR (with 3 UMFPs), a 5% increase for DMDBA (with 1 MFP) and a 6% increase for DNBBS (with 2 UMFPs). Another way of describing the impact is to note that the number of minorities being trained on T32s went from 136 to 230, which represents an overall increase of 69%. This is but a snapshot of these grants to give some sense of the impact the minority fellowship programs have had on the total distribution of minority fellows on T32s.

On the other hand, these data provide no information about the quality of training and the areas of science being taught. This is true for all NIMH training grants and needs to be addressed. Data will be forthcoming soon that show how successful trainees on regular NIH T32s have been in securing research grant support and/or in continuing to pursue research careers. (Data will not be broken down by race/ethnic factors). The problems faced by Principal Investigators on regular T32s in trying to increase the numbers of minorities on these grants were discussed during the October 5 Workshop. Some recommendations on how this problem might be addressed were aired and are discussed below. These issues will be taken up at future sessions involving representatives from a variety of sources.

Global Training Issues

Stipend Amounts: Training PIs reported that it is difficult to recruit the very best into research careers with stipends that are inadequate. This is especially the case with pre-doctoral stipends of $14,688 for 12 months of full-time training for social workers who have a professional degree, (MSW), and several years of practice experience and for trainees with dependent children (frequently the case) or other family responsibilities that disproportionately fall on persons of color with few resources. **(Since the time this report was drafted stipend amounts have increased by 2.5% for pre docs bringing the amount to $15,060).** PIs also report that it is a very serious problem in trying to recruit psychiatric residents with

postdoctoral stipends of $36,036 for full-time research training. Similarly, it is very difficult to recruit outstanding medical students to a summer research internship with stipends of $1, 224/ month.

Training-Related Expenses: With regard to training related expenses, each of the Minority Fellowship Training Programs can and do provide more than the standard $1,500/ pre-doctoral trainee to cover some of the costs of recruiting students, consulting with them on placements, mentoring them and their faculty, offering special workshops, etc. **(This amount has been increased to$2,000).** PIs on these programs believe the amount needed to effectively implement these specialized program activities, as well as the amount that participating organizations and universities can contribute, warrant further discussion. As with other NIH training programs, NIMH funds only cover part of the costs of the program. According to one program's analysis, the costs for specific activities covered by the MFP grant remained stable at approximately 21% of the total costs over the years. In real dollars, funding has not kept up with inflation. Using the CPI Index, the Program support is 40% lower that it was in 1974.

[Note: Under the regular NRSA T32 applicants may request funds for other training related expenses (TRE) such as personnel directing the program, consultants, project specific supplies, travel, reproduction and printing costs, rental equipment, minor equipment items, and other items which are directly related to the recruitment, selection, placement and monitoring of training of the students. Ordinarily, under NRSA awards, up to $2,000 per predoctoral student and up to $2,500 per post-doctoral student is provided on an annual basis for the other training related expenses deemed essential to carry out the training program for awardees appointed under the grant. However, under the URMPs applicants may request funds exceeding this amount if they are essential for fulfilling the purposes of the grant and the need for additional funds is clearly documented and justified by the applicant In any case, the TRE may not exceed 30% of the total direct costs in any year for any one of the UMFP programs.]

[Note: Issues/considerations related to institutional training grants are further spelled out on page 44 and are believed to require further discussion/consideration.]

Underrepresented Minority Fellowship Program

History

The Civil Rights movement in the 1960s called to everyone's attention the patterns of racial discrimination in American society. While NIMH supported over 600 individual fellowships and had a professional staff of three psychologists and an anthropologist to work with individual fellowship applicants and awardees, none was a minority person and efforts to encourage individual minority fellowships were disappointing. The number of minority pre or postdoctoral trainees was also very small and training programs had difficulty in recruiting them. Thus, minorities were seriously underrepresented in the NIMH training programs, and even more so in research careers. There was a freeze on FTEs during this time which precluded NIMH hiring staff to specifically focus on attracting more minority fellows in the pipeline. Dr. N. Jay Demerath, III was the Executive Officer of the American Sociological Association (ASA). The ASA was under pressure from Black Sociologists to be more responsive to the needs of minority sociologists and minorities. He proposed to NIMH that the Institute fund a training grant to the ASA to allow that organization to hire a staff person to head an effort to recruit minority students into strong graduate programs in sociology, mentor and support them while they were in graduate school, provide stipend support, and seek partial tuition support from universities. This arrangement would thus constitute a 3-way partnership involving the ASA, NIMH, and university departments.

This program came to fruition in 1972. It met a real need and was successful in recruiting and placing students in strong graduate programs. In subsequent years, programs were begun in Nursing, Social Work, Psychology, Neuroscience, and Psychiatry (10 years ago). [The initial funding of the UMFPs was prior to specific formulas for Training Related Expenses, (TRE) so NIMH could provide the funds needed for the Program Director and the related travel and other expenses]. In summary, While the efforts of regular training programs to recruit and train underrepresented minority persons have been substantial, the overall under-representation in both research training programs and the much greater under-representation among

NIMH funded mental health researchers led to the development of specialized research training programs specifically focused on national recruitment, placement and training of underrepresented minorities. Below are summary descriptions and reports of progress for each of the currently funded UMFP Programs.

Underrepresented Minority Fellowship Program in Sociology, American Sociological Association

Dr. Felice Levine
Dr. Edward Murguia

The major objectives of this program are to a) recruit underrepresented minority students interested in mental health research b) help place them in graduate programs with strong mental health research, c) provide financial support, d) provide continuing mentoring support, e) encourage the development of substantive research in mental health, f) build networks of support among the students and the faculty, g) build partnerships between the NIMH, the American Sociological Association, and universities, h) help develop dissertation research grants, i) encourage and facilitate the development of postdoctoral and research & career development support applications, and j) facilitate the completion of doctoral study and the socialization into successful careers in mental health research.

Overall Impact of the Program in Shaping the Discipline of Sociology While each funding period of the Program has been successful in its time and place, over the years the MFP (like the NIMH) has evolved in terms of its objectives and how it accomplishes them. With each successive grant renewal this unique national training program has become even more proactive and intentional in enhancing the mental health training of Fellows--above and beyond what they receive from their graduate departments.

Since the inception of the Program, in 1974, a total of 215 Minority Fellows have received their PhDs. While the MFP training program constitutes only one pre-doctoral training initiative, its impact can be seen in the sizable proportion of underrepresented minority scientists produced with MFP support. Table 1 below presents a comparison of those receiving PhDs from the MFP Program with those receiving PhDs generally in sociology from 1980-1996 (1996 is the last year of reported data by the National Research Council). Based on these data, ASA's Minority Fellowship Program accounts for approximately 17% of all minority sociologists produced during this period.

Table 1. Comparison of MFP PhDs to Total Number of Minority PhDs in Sociology by Race/Ethnicity: Year of PhD from 1980-1996

		Number of PhDs	
Race/Ethnicity	MFP PhDs	PhDs in Sociology	%
African American	92	425	21.65
Asian American	33	277	11.91
Latino/a	48	332	14.46
Native American	14	35	40.00
Total	187	1069	17.49

Note: National Research Council data. See Henderson, P.H., J.E. Clarke, and C. Woods. 1998. Summary Report 1996: Doctorate Recipients from United States Universities. Washington, D.C.: National Academy Press. (The report gives the results of data collected in the Survey of Earned Doctorates, sponsored by five federal agencies: NSF, NIH, NEH, U.S. Dept. of Ed., and USDA and conducted by the NRC).

While there are variations by race/ethnicity, it is significant that the Program accounts for almost one fifth of all minorities receiving PhD degrees in sociology. It is equally significant that the presence of the

Program has attracted among the most talented students of color to pursue specialization in the sociology of mental health and has provided them with quality training in this specialty. Such scientific leaders in mental health as Linda Burton (1985), David Takeuchi (1986), and David Williams (1986) are some of the most accomplished researchers, teachers, and mentors trained by the MFP during this period. Without this training program, minority sociologists with mental health expertise and interest would largely be absent, as would the students who have followed in their footsteps

Demographic Profile of the MFP Fellows

Table 2 provides information on the race/ethnicity of all MFP Fellows who have participated in the Program. Of the 394 Fellows funded to date, approximately one half have been African American. Latino/a Fellows comprise the second largest group at 27.4%, and Asian Americans are third at 17.5%. While only a small number of Fellows (25) have been Native American, they constitute a higher proportion of the MFP Program (6.4%) than estimates of the general Native American graduate student population in sociology (about 3%).

When one considers the change in the ethnic composition of cohorts over time using five cohort groupings, it is apparent that generally the proportion of Fellows by the four ethnic/racial categories has remained relatively stable. During the 1980s (essentially the Fellows entering in cohorts 6-10 and 11-15), there was a drop in the proportion of African Americans in the Program, but in the 1990s this returned to approximately the 50% level. The proportion of Asian Americans increased from the early years and has remained at about one fifth of the Fellows.

Table 2. Race/Ethnic Composition of Minority Fellowship Program Cohort Groups In Percentages (N in Parentheses)

	Cohort Groups					
Race/Ethnicity	1 - 5	6 – 10	11 – 15	16 - 20	21 – 26	Total
African American	52.1 (75)	44.4 (28)	42.9 (24)	50.0 (32)	49.2 (33)	48.7 (192)
Asian American	11.1 (16)	19.1 (12)	21.4 (12)	23.4 (15)	20.9 (14)	17.5 (69)
Latino/a	29.9 (43)	23.8 (15)	30.4 (17)	23.4 (15)	26.9 (18)	27.4 (108)
Native American	6.9 (10)	12.7 (8)	5.3 (3)	3.1 (2)	3.0 (2)	6.4 (25)
Total	100.0 (144)	100.0 (63)	100.0 (56)	100.0 (64)	100.0 (67)	100.0 (394)

Table 3 presents the composition of the MFP Fellows by gender. Overall there have been more females (55.6%) than males (44.4%) in the Program. Only for the first five cohorts were there more males than females in the MFP, in exactly the reverse proportion to the overall numbers. Beginning with cohorts 6-10 and remaining stable thereafter, there was a shift to relatively greater numbers of females than males. In general, the proportion of women in sociology has also increased over the 1980s and 1990s, of which the pattern within the MFP Program might be seen as a part. Having observed this pattern and the very low proportion of male students of color pursuing scientific careers, the Program has been attentive to this issue in its outreach and selection processes. For new Fellows accepted in cohorts 21-26 (the current funding period), the proportion of males has increased by 10%.

Table 3: Gender Composition of Minority Fellowship Program by Cohort Groups in Percentages (N in Parentheses)

Gender	Cohort Groups 1 - 5	6 - 10	11 - 15	16 - 20	21 - 26	Total
Male	55.6 (80)	46.0 (29)	35.7 (20)	29.7 (19)	40.3 (27)	44.4 (175)
Female	44.4 (64)	54.0 (34)	64.3 (36)	70.3 (45)	59.7 (40)	55.6 (219)
Total	100.0 (144)	100.0 (63)	100.0 (56)	100.0 (64)	100.0 (67)	100.0 (394)

Table 4, which displays the composition of MFP Fellows by race/ethnicity and gender, points to important variations among groups. For African and Asian groups, there have been substantially more female than male MFP Fellows. Among African American Fellows, 62.0% were female; among Asians, 65.2% were. The reverse is true, however, for the Latino/a and Native American groups. Among the Latino/as, 40.7% were female; among Native Americans (while the numbers are small), 44.0%

Table 4. Composition of Minority Fellowship Program by Race/Ethnicity and Gender In Percentages (N in Parentheses)

Race/Ethnicity	Gender Male	Female	Total
African American	38.0 (73)	62.0 (119)	100.0 (192)
Asian American	34.8 (24)	65.2 (45)	100.0 (69)
Latino/a	59.3 (64)	40.7 (44)	100.0 (108)
Native American	56.0 (14)	44.0 (11)	100.0 (25)
Total	44.4 (175)	55.6 (219)	100.0 (394)

Ph.D Production and Success

Table 5 presents the Ph.D. completion rate among the MFP Fellows by cohort grouping. The overall completion rate for the three cohort groups that entered ten or more years ago (cohorts 1-5, 6-10, 11-15) is 65.4%. This is a conservative estimate of completion because this analysis includes non-respondents. Currently, there is still considerable missing information on the first five cohorts (53 of the 144 Fellows are non-respondents). Thus, for the earliest cohort, a completion rate of 57.6% is likely an underestimate.

The best estimate of completion can be obtained by examining the rates for cohort groups 6-10 and 11-15. The data are reasonably complete in these cohorts, and all of these Fellows had entered graduate school at least ten years ago. Evident is a consistent and robust completion rate of above 75%. Also, it is notable that 50% of the Fellows who entered in cohorts 16-20 have already completed their degrees. Because these Fellows entered the Program between 1989 and 1994, many of them (approximately 40%) are still engaged in their doctoral research. Almost all of the students who entered during the current award period (1994-1995/1999-2000) remain active students.

Table 5. PhD Completion Rate among MFP Fellows by Cohort Groups

Cohort Groups	Period Entering Program	Fellows (N)	PhDs (N)	Completion Rate (%)
Cohorts 1 - 5	1974/75 – 1978/79	144	83	57.6
Cohorts 6 – 10	1979/80 – 1983/84	63	47	74.6
Cohorts 11 - 15	1984/85 – 1988/89	56	42	75.0
Cohorts 16 – 20	1989/90 – 1993/94	64	32	50.0
Cohorts 21 – 26	1994/95 – 1999/2000	67	11	16.4
Total Cohorts 1 - 15		263	172	65.4
Total Cohorts 1 - 26		394	215	54.6

Table 6 examines by cohort the overall race/ethnicity distribution of the Fellows in comparison to the race/ethnicity distribution of only those Fellows who received their PhD degree. In a general sense, these data provide an overview of the success of the Program from input to output. In comparing these two distributions, there is essentially no variation by the race/ethnicity of Fellows. For example, 48.7% of the MFP Fellows were African American, and 50.2% of the Fellows attaining the PhD were African American as well. There is a slight change in the distribution for only one group: 27.4% of the MFP Fellows were Latino/as, but they account for 24.7% of the PhDs.

Table 6. Race/Ethnicity Composition of All MFP Fellows and PhD Only Fellows by Cohort Groups In Percentages (N in Parentheses)

	All Fellows % (N)	PhDs Only % (N)		All Fellows % (N)	PhDsOnly % (N)
Cohorts 1-5			Cohorts 1 - 15		
African American	52.1 (75)	53.0 (44)	African American	48.3 (127)	48.8 (84)
Asian American	11.1 (16)	12.1 (10)	Asian American	15.2 (40)	16.3 (28)
Latino/a	29.9 (43)	28.9 (24)	Latino/a	28.5 (75)	26.7 (46)
Native American	6.9 (10)	6.0 (5)	Native American	8.0 (21)	8.1 (14)
Total (N)	100.0 (144)	100.0 (83)	Total (N)	100.0 (263)	100.0 (172)
Cohorts 6 - 10			Total Cohorts 1 - 26		
African American	44.4 (28)	44.7 (21)	African American	48.7 (192)	50.2 (108)
Asian American	19.1 (12)	19.1 (9)	Asian American	17.5 (69)	17.7 (38)
Latino/a	23.8 (15)	21.3 (10)	Latino/a	27.4 (108)	24.7 (53)
Native American	12.7 (8)	14.9 (7)	Native American	6.4 (25)	7.4 (16)
Total (N)	100.0 (63)	100.0 (47)	Total (N)	100.0 (394)	100.0 (215)
Cohorts 11 - 15					
African American	42.9 (24)	45.2 (19)			
Asian American	21.4 (12)	21.4 (9)			
Latino/a	30.4 (17)	28.6 (12)			
Native American	5.3 (3)	4.8 (2)			
Total (N)	100.0 (56)	100.0 (42)			

Cohorts 16 - 20		
African American	50.0 (32)	50.0 (16)
Asian American	23.4 (15)	25.0 (8)
Latino/a	23.4 (15)	21.9 (7)
Native American	3.1 (2)	3.1 (1)
Total (N)	100.0 (64)	100.0 (32)
Cohorts 21 - 26		
AfricanAmer.	49.2 (33)	72.7 (8)
Asian American	20.9 (14)	18.2 (2)
Latino/a	26.9 (18)	0.0 (0)
Native American	3.0 (2)	9.1 (1)
Total (N)	0 (67)	100.0 (11)

In addition to Ph.D. production, another measure of the success of the program is the years-to-degree. For this analysis, data were examined on Fellows from cohorts 11-26 who have completed their doctorates. From cohort 11 forward, current information is much more complete on both the year a Fellow entered graduate training in sociology (as distinct from the year he or she became a Fellow) and the exact year that the Fellow completed his or her degree (as distinct from just receiving the Ph.D.). Table 8 shows that the modal categories in this distribution are 6 and 8 years to degree, with 13 MFP Fellows in each category. The overall mean years-to-degree for the Fellows is 6.63 years. These data can only be cautiously compared to the 1998 ASA Survey of Recent Ph.D. Graduates in Sociology (a census of all Ph.D. graduates between July 1996 and August 1997) because the time frames are not identical. Nevertheless, the MFP mean of 6.63 compares favorably to an overall mean in sociology of 6.95.

Table 8. Years to Degree for MFP Fellows, Cohorts 11-26

Years to Degree	Number of Fellows
1	1
2	2
3	4
4	3
5	12
6	13
7	9
8	13
9	11
10	1
11	2
13	1
Total	72
Mean Years to Degree, MFP Fellows: 6.63	
Mean Years to Degree, All Sociology[a]: 6.95	

Note: This analysis is based on 72 MFP Fellows in Cohorts 11 – 26 for whom the Program has complete data on "years to degree." Through the current year, 85 Fellows completed their Ph.D. Thus, the analysis is based on 84.7% of those receiving their doctoral degree.

[a]Source for mean years to degree in sociology is the 1998 Survey of Recent Ph.D. Graduates in Sociology, American Sociological Association, Research Program on the Discipline and Profession, and includes individuals who received their degree in sociology between July 1, 1996 and August 31, 1997 (N=426).

It is important to emphasize that "years-to-degree" is a true measure of the year that the MFP Fellow entered graduate school in sociology. The average would be considerably lower had the year in which a Fellow entered the MFP Program been used as the base because almost half of the Fellows (47.6%) from these same cohorts entered the Program with an advanced degree. As Table 9 makes clear, while 52.4% of the MFP Fellows entered the Program with a BA/BS or the equivalent, 42.7% had an MA or MS in the discipline. In part, these entry data reflect the fact that undergraduates have less clearly defined interests in mental health than do those who have already been in graduate school where they have had an opportunity to consider various specialties in sociology.

Table 9. Educational Degrees of Fellows Upon Entering MFP Program, Cohorts 11-26

Entry Degree	N	%
BA/ BS or equivalent	86	52.4
MA/ MS	70	42.7
MSW/ MPH/ MPA	5	3.1
Other (MAT/ MDV/ MSCJA)	3	1.8
Total	164	100.0

Note: This analysis is based on 164 Fellows who entered the MFP in Cohorts 11 – 26, for whom the Program has complete data on the "degree when entered" the Program. The total number of new Fellows in Cohorts 11 26 is 187. Thus, the analysis is based on 87.7% of those entering the Program in this cohort

The outcome analyses presented here are based on an initial examination of all Fellows funded during only the prior award period (1989-94). As indicated earlier, some of these Fellows (approximately 40%) are still pursuing their degrees. Nonetheless, since the program's complete database had incomplete information on the career paths of all MFP Fellows and their work, these reporters decided to direct initial attention to all

Fellows funded during the prior award period (1989-94). An important indicator of first steps beyond degree is exposure to postdoctoral training. Of the 71 respondents to the program's survey or telephone follow-up, approximately 11 pursued a postdoctoral placement upon completion of the Ph.D. While the numbers are small, the 11 constitute 24.4% of those with a Ph.D. degree, since 26 of these Fellows report that they are still working on their degree.

Table 10 presents results on productivity and access to funding. These estimates of productivity and research funding access are conservative as they do not adjust for those who are still students or who only recently have had their degrees conferred and thus have had little time out since degree. The average publications per Fellow, however, are 4.24 (based only on peer-reviewed articles, chapters, or books and excluding reports, technical documents, book reviews, and so forth).

The funding picture also presented in Table 10 shows a good beginning but raises some "flags" about access as well as success. Of those who were Fellows between 1989-94, 56.3% report having received university support, and 62.5% report having received such support more than once (indeed 12 of the 40 Fellows report receiving funding four to six times). External support, however, is not as frequent for our Fellows, especially Federal support. Of the Fellows, 41% reported receiving support from a private foundation, scientific society, or similar non-profit organization, with most (79.3%) receiving it only once. While almost one fourth of these early career Fellows (23.9%) had at least one Federal grant, only 29.4% had more than one.

That 23.9% of the Fellows had at least one Federal award is roughly in line with success rates of competitive grant programs in Federal agencies. This number itself then is not of concern. Nevertheless, moving well-trained and talented scientists of color into the pipeline of support remains an important challenge for programs such as the MFP and agencies such as the NIMH. Until data are available on the number of applications submitted, estimates of the true success rate of CSWE Fellows cannot be made. Also, if is not known, as yet, whether Fellows self-select themselves from applying for funding or whether, because they are early in their careers, they are working on funded projects of others. At first blush, these reporters can conclude that CSWE Fellows are navigating the pipeline of Federal funding, but less dramatically than hoped.

Table 10. Productivity and Research Support Access of Minority Fellows: MFP Fellows Trained During Funding Period 1989 – 94 (Fourth Funding Period, N=71)

A. Productivity	Mean Per Fellow
Peer Reviewed Articles, Chapters, Books[a]	4.24

B. Access to Support	Number of Fellows	% of Total	% With Only One Support	% With More than One Support
Federal Grants	17	23.9	70.6	29.4
Private Foundations, Scientific Societies, and Related Support	29	40.8	79.3	20.7
University Support	40	56.3	37.5	62.5

Note: A total of 84 Fellows were funded during this period, with 71 responding to either the mailed questionnaire or the telephone interview, both administered in 1997-98, on productivity questions for the period up to 1998. As these fellows are from relatively recent cohorts (16-20), only 45% had completed their Ph.D. degrees at the time of the survey.
[a]Articles and chapters were given a weight of 1; books were given a weight of 5.

Underrepresented Minority Fellowship, Program in Social Work
Council on Social Work Education

Dr. Aracelis Francis

In 1974, the Council on Social Work Education (CSWE), through the initiative of the Center for Minority Group Mental Health at the National Institute of Mental Health (NIMH), developed a model for actualizing the profession's commitment to meeting the mental health needs of people of color. CSWE was awarded a four-year grant to increase the number of social work doctoral students of color concentrating in research, enhance the number and use of people of color in social work programs, and contribute to the systematic development of knowledge regarding ethnic minority individuals and communities. The program was designed to attract, train, and place in strategic positions, researchers of color who would provide leadership in the planning and delivery of mental health services to people of color and who would make research contributions to fill identified knowledge gaps. In the fall of 1975, 15 experienced social workers began their doctoral studies in schools of social work around the country. For many, they were the first in their families to enter college or graduate school, and they now faced a new challenge: entering a doctoral program. Changes to the program have been introduced over the years to respond to the evolving academic climate and sharpen the program's focus on increasing the number and quality of minority mental health researchers and educators.

During the past 24 years, there have been many changes in the expectations of the fellowship program. Initially, the focus was on increasing the number of fellows with doctoral degrees, but during the past 10 years the focus has shifted to providing opportunities for research fellows to be a part of the next generation of mental health researchers. This has required a change in recruitment, selection, opportunities provided, and the program's investment in ensuring that fellows receive the knowledge and training that will nurture their careers.

Two changes in the program have helped increase the success of CSWE fellows in finishing the doctoral degree and establishing a research career. First, ensuring the availability of a third year of support in 1986 for fellows helped them to finish course work and continue into the dissertation research and writing phase. In previous years, many fellows have interrupted their educational process after completing their course work to return to practice or other work. This decreases the chance of students returning to complete the dissertations, and, for those who do return, it lengthens the time it takes to complete a doctorate and start on a research career. The obstacles that such interruptions bring to the goals of the UMFP program are further compounded by the relatively advanced age at which persons with doctoral degrees in social work are completing their programs. The Task Force on Social Work Research (1991) found a 14-year average span between the master's degree and completion of the doctoral degree, with intervening years spent in professional practice. This lengthy educational process was also documented in a 1992–93 study of "The Academic Status of Former Council on Social Work Education Minority Fellows," which found that the age of the average doctoral graduate was 41 (52% received the degree between the ages of 34 and 43, 33% at 44 year or older, and only 15% at 33 or younger; n=90).

The second change, and the most profound one for attaining the program's goals, occurred in the application process for research fellowships. In 1994 the focus of the program was sharpened from increasing the numbers of minorities with doctoral degrees to creating mental health researchers. Applicants were asked to discuss their interest in a research career and link it with current NIMH research. They had to indicate whether the prospective doctoral program could provide faculty mentorship by individuals having an NIMH or other funded mental health research project. Applicants also had to provide

a five-page research proposal. To help in this process, prospective applicants received a list of funded NIMH research and information from all schools of social work that had strong programs in mental health research.

At present, the program is just beginning to reap the benefits of the changes in the application process. Participating students are now more directed than ever to obtaining a research degree, and their links with current NIMH and other funded researchers bring them closer to the research world at an earlier age. This has also helped to increase the quality of the students accepted into the research program. Although research projects may evolve over the course of a student's graduate career, the research proposal requirement for the grant application gives reviewers a better sense of the candidates' knowledge and orientation to social work research

Outcomes

Most fellows accepted in the program since the change in the application continue to work on their doctorates, and therefore, outcomes are not yet available. However, there is evidence of a growing interest, on the part of potential employers, both in minority social work doctorates and especially minority social work researchers. The CSWE's accreditation standards require schools of social work to have diversity in their faculty and student body. This fuels the interest of schools in the program's fellows, particularly as the numbers of minority doctoral graduates nationwide has remained flat in the last five years. CSWE statistics indicate that between 1994 and 1998 the percentage of ethnic minorities on faculty hovered around 22%. Although these statistics do not include responses from every faculty in the United States and Puerto Rico, they point to the need for increased support of minority students in completing their doctorate and the fact that fellows will be well positioned to continue development of their research careers

Data in Tables 1, 2, and 3 show the numbers of social workers who were supported by the research fellowship program through 1998. The data indicate the numbers who completed their doctorates as well as their gender and ethnicity, but such quantitative data do not tell the whole story of how the program is meeting its goals. Of the 254 fellows supported, 153 (60.2 %) completed doctorates, and 2 completed master's degrees, telling the reader nothing about the innumerable contributions that this program has made to social work education, to the quality of services that are being provided to communities of color, and to the contributions these fellows have made in agencies, communities, policy circles, and other areas. A systematic evaluation of the impact of increasing numbers of social work doctorates on these areas is needed.

Table 1: Summary of Trainee Data for CSWE Minority Fellowship Program
(P. I.: E. A. Francis)

Entry Degree					Exit Degree, in Training or Quit					
Yr		BA/S	MSW	Tot. Supportd	DSW	Ph.D	Other	MSW	# quit	% quit
75	>	3	12	15	6	4		1	4	26.7
76	>		15	15	5	6		1(Ed.D	3	20.0
77	>	1	15	16	7	5		1	3	18.8
78	>		15	15	6	4			5	33.3
79	>		6	6		4			2	33.3
80	>		9	9		8			1	11.1
81	>		4	4		3			1	25.0
82	>		21	21		10	1		10	47.6
83	>		20	20		14			6	30.0
84	>		4	4		4				0.0
85	>		7	7		5	1		1	14.3
86	>		12	12		10			2	16.7
87	>		8	8		5			3	37.5
88	>		6	6		4	1		1	16.7
89	>		7	7		4	2		1	14.3
90	>		14	14		9	4		1	7.1
91	>		8	8		4	3		1	12.5
92	>		15	15		9	3		3	20.0
93	>		9	9		7	1		1	11.1
94	>		4	4		2	1		1	25.0
95	>		11	11		5	5		1	9.1
96	>		8	8		2	1		***	
97	>		8	8	All '97 & '98 trainees are current fellows					
98	>		12	12						
N	>	4	250	254	24	128	23*	3	51	
%	>	1.6	98.4	100	9.4	50.4	9.1	1.2	20.1	

_*Writing Dissertations_____

** Totals 254 fellows supported--153 Doctoral Degrees-2 MSWs

***For 1996: 5 are current fellows

The program can boast of a number of outstanding graduates who have and continue to make significant contributions in the research, publishing and other scholarly contributions, social work education, public policy and teaching here and abroad. The list is extensive.

Of the 153 fellows who have obtained their doctoral degrees**, 66% are employed as faculty in schools of social work, where they teach and conduct research.** Although this report has highlighted a few who have received research grants from NIMH in the preceding section, more is known based on anecdotal information. Many fellows are involved in research, funded by non-PHS money. Some research is funded through the university, foundations, or is done with the availability of research assistants. Other fellows have received federal non-research grants: e.g., training grants, conference grants, program development grants, and evaluation grants from agencies such as SAMHSA, NIAAA, and ACYF. Currently, the program does not have a systematic way of tracking this data, hence complete numerical listings of how many are receiving research funding is unavailable. This information would be useful for the program as it would identify fellows' research endeavors, provide the program with information on their actual success

and possibly give the program the opportunity to provide graduates with information about how they could use existing research to tap into the NIMH or other Federal government funding streams.

Of those accounted for, 4.6% are involved in research full time, including one former fellow who works on several AIDS related grants in the research unit at the Charles Drew University of Medicine and Science in Los Angeles, California. Within the .7% known to be in industry, is one former fellow who is President and CEO of a consulting firm that received a five year grant from the Department of Defense to study women and breast cancer. Within the 8.5 % known to be employed in government, one was sent to Panama in collaboration with SAMHSA and the Pan American Health Organization to evaluate mental health programs and review their mental health management information system. No information is available on 8 % of former graduates . Finally, of the 3.9% who retired, most were employed in schools of social work and 2.6% of former fellows are deceased.

Table 2: Summary Trainee Data for CSWE Minority Fellowship Program

		Hired In					Other Professional Actitivities				
Yr	tot. grad.	aca	res	indus	gov	oth	Ret/ Dec.	# sub grnt	# obt. res grnt	# obt. non-res grnt	# with 3 + pub*
5	10	4	2		1		3	2	2		4
6	12	6			4	2					4
7	12	7			1	3	1				4
8	10	5			2	2	1				4
9	4	3				1		1	1		2
10	8	7					1				4
11	3	1				2					1
12	10	6			1	3					3
13	14	5		1	1	4	3D	2	1	1	5
14	4	4						2		2	3
15	5	4			1			1	1		3
16	10	9					1D	3	3		6
17	5	4				1			2		3
18	4	4						1			
19	4	2			2			2	1	1	4
20	9	8	1					2		1	4
21	4	4						2	1		3
22	9	7	2					2	2		3
23	7	6				1		3	1		4
24	2	2									
25	5	2	2			1		1	1		1
26	2	1				1					1
tot	153-	101	7	1	13	21	10	26	16	5	67
%	-	66.0	4.6	0.7	8.5	13.7	6.5	17.0	10.5	3.3	43.8

Other-Includes employment in for profit, private organizations, or not found.
Ret--retired fellows
D= Deceased
*Includes edited books

Finally, table 3 shows the race/ethnicity and gender of two cohorts of trainees. The trends have not varied in terms of the proportion of males to females. Sixty percent of trainees tend to be female. Black Americans are the largest group followed by Hispanic, Asian Americans and Native Americans, in that order.

Table 3: Distribution (tot. and %) of CSWE Minority Fellows by Race/Ethnicity and Gender

Years Totals	Am.Indian			Asian Amer.			Black			Hispanic					
	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F
75-99	16	6	10	53	17	36	124	49	75	61	31	30	254	103	151
%	**6.3**	5.8	6.6	**20.9**	16.5	23.8	**48.8**	47.6	49.7	**24**	30.1	19.9			
89-99	6	0	6	22	5	17	45	16	29	23	10	13	96	31	65
%	**6.3**	0	9.2	**22.9**	16.1	26.2	**46.9**	51.6	44.6	**24.**0	32.3	20.0			

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Underrepresented Minority Fellowship Program in Psychiatry, American Psychiatric Association

James Thompson, MD, MPH

Description

The Program for Minority Research Training in Psychiatry (PMRTP) is supported by the National Institute of Mental Health and administered by the American Psychiatric Association. It was started in 1989 and is currently in its tenth year**.** Post-residency fellows can undertake full-time research fellowships of one to three years following completion of their psychiatric residency. During that time they can undertake training in an area of psychiatric research including schizophrenia, neuroscience, epidemiology, mood disorders, child psychiatry and cross cultural psychiatry, among others. Training takes place at research-intensive departments of psychiatry in major medical schools and at other appropriate sites. Fellows select the mentor and the institution where the training will occur. The fellow and the mentor decide on the research study and the fellow's research training and career development that will occur during the fellowship. The application is prepared jointly by both parties, with the mentor completing a specific section that requests information about his/her experience with the research to be undertaken, experience in mentoring other trainees, and the institution's commitment to supporting the trainee.

Psychiatric Residents

Although the main emphasis of this program is to support postresidency fellows, psychiatric residents can receive support from the PMRTP if they fit one of three criteria: 1) the trainee can take a year-off from residency training to devote full-time to research training; 2) the trainee is in a psychiatric residency program that allows that person to devote a full year (usually the fourth year) as an elective period of training that could be used to receive research training; 3) the trainee is in a residency program that has a

research track (usually a five-year program) that allows at least one year to be devoted to receiving research training.

Medical Students

Medical students are usually funded for a summer research training experience of one to four months. They submit an abbreviated version of the same application used by fellows and residents, where they summarize the research project to be completed under the guidance of the mentor and the research training that will be received. Much like the fellows and residents, medical students are required to submit a joint application that is completed by the trainee and the mentor.

Mini-Fellows

Mini-fellows are medical students and residents who receive a travel award. The program relies extensively on the mini-fellow program as a recruitment tool and to introduce medical students and residents to the field of psychiatric research. Two national competitions are held annually to recruit and select mini-fellows to attend the American Psychiatric Association and American College of Neuropsychopharmacology (ACNP) annual meetings. Attendance at these national meetings will expose medical students and residents to current psychiatric research and active psychiatric researchers. Each mini-fellow is paired with a senior psychiatric researcher as a mentor with whom they are encouraged to communicate prior to the meeting. During the meeting they may discuss their career plans and aspirations with their mentor. The mini-fellows are also exposed to current research in psychiatry, which they may also discuss or review with their mentor. Approximately half of the post-residency fellows supported to date were at one time supported as mini-fellows.

Role of the Mentors

The program places a great emphasis on the role of the mentor in guiding all trainees supported by the program. The Program maintains the Psychiatric Research Mentor Network; a database that contains information on over 215 individuals who have agreed to be mentors through the PMRTP. It includes research training directors; underrepresented minority psychiatrists and researchers; psychiatry department faculty; deans, faculty and advisors of traditionally black institutions; residency training directors; and others. Information in the database includes (for each mentor) name and degree, department and institution, address, telephone numbers, areas of research expertise or interest, preference (if any) concerning the trainee with whom matched (level, sex, or underrepresented minority identification), and brief history of PMRTP mentorship. Program staff uses this database/network both to match PMRTP participants (both full-time trainees and "mini-fellows" selected to attend meetings of psychiatric organizations) with mentors and to make referrals to mentors when individuals seeking information about careers in psychiatric research call or write to the PMRTP. Staff search the database based on the individual's preference as to institution or geographic location, research interest, and so forth. In addition, project staff periodically send information and articles about the mentoring process to the members of the network, as well as holding workshops at professional meetings to assist in upgrading mentoring skills and awareness of the full range of research and research training opportunities.

Research Training Opportunities

The program maintains a database that includes information on over 150 research fellowship opportunities available to medical students, residents, and post-residency fellows. Program staff used the database to produce the Directory of Research Fellowship Opportunities in Psychiatry. Part of this same directory is also available through the APA web site with direct links to the individual web sites of the programs listed.

Progress/Outcomes

During this time, the program has supported 51 post-residency psychiatry fellows (including 13 currently being funded), 46 medical students, and 257 “mini-fellows” (travel award recipients). Below, Table 1

shows the distribution of entering and exiting fellows by degree over the last ten years and table 2 shows post-training positions/professional activities of graduates.

Table 1 Summary of Trainee Data for APA PMRTP Program

	# Entered by Degree				# Completed Fellowship			
Trainees Entered By Year	M.D./ Ph.D.	M.D.	M.D./ MPH	Total Entering	M.D./ Ph.D.	M.D.	M.D./ M.P.H.	Total
1990								
1991		3	2	5				
1992		5		5		5		5
1993		5		5		5	1	6
1994	1	3		4	1	1		2
1995	1	4		5		7		7
1996	2	6		8	2	6		8
1997	1	6	1	8	1	5	1	7
1998	2	4	1	7	1	1	1	3
1999		3	1	4				
Totals	7	39	5	51*	5	30	3	38
%	13.7	76.5	9.8		13	79	8.0	75

Footnotes:
Funding year – Program started in 1989 and appointed first trainees in January 1991
*A total of 13 of the 51 trainees entered are currently in training.

The success rate is very high in terms of entering fellows who complete their training. A total of 51 fellows have entered the program since 1991 and 38 (75%) of those have completed training as either MDs, MD./Ph.Ds. or MD./MPH.s Thirteen (25%) fellows were still in training at the time of this report (October, 1999). Of the 38 who have finished their fellowship training, 28 or 74% are hired in academic/research settings, 10.5% are in clinical settings and 10.5% are in government settings. The remainder, 5%, are in academic settings.

Table 2: Summary Data on NIMH Minority Fellowship Training Program in Psychiatry 1990 to 1999

	Graduates Hired In						Other Professional Activities			
Trainees Finished Program By Year	Aca.	Res.	Both	Indus	gov.	Clin. Pract.	Subm.Grant Appl.	Recd Res. Grant	Have 3+ Pubs.	# grad.
1990										
1991										
1992			2		1	2	3	3	2	5
1993	1		3		2		4	4	4	6
1994			2				2	2	2	2
1995	1		5			1	4	4	5	7
1996			7			1	6	6	4	8
1997			6		1		7	7	5	7
1998			3							3
1999										
Totals	2		28		4	4	26	26	22	38
%	5.3		73.7		10.5	10.5	68.4	68.4	57.9	100

Definitions:

Funding year – Program started in 1989 and appointed first trainees in January 1991
Hired Academic – Number in academic settings, not currently conducting research
Hired Both – Number in academic settings that are currently conducting research
Hired Government – Number in government settings (e.g., VA hospitals)
In Clinical Practice – Number in clinical practice, not currently conducting research
Submitted/Received Grant Applications – Number that submitted research grants and were funded
Have 3 + Pubs. – Number that had at least 3 or more publications accepted in science journals

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Minority Fellowship Program Research Training in Psychology
American Psychological Association
James M. Jones, Ph.D

The Minority Fellowship Program (MFP) at the America Psychological Association (APA) was first funded in 1974, under a general Public Health Service authorization. This program considered any doctoral level trainee in psychology regardless of area of specialization. In 1979, a new grant mechanism was initiated under the National Research Services Act (NRSA) that was focused specially on research training in psychology with relevance to mental health. Since 1979, the MFP at APA has provided stipend support for 216 trainees across a wide array of mental health research specialties in psychology. Over 80% of those trainees entering MFP prior to 1990 have earned the PhD degree. Only 14 trainees (6.48%) have withdrawn

without earning the degree during the lifetime of the program. The average time to degree has been 6.28 years, but it appears that the time is shortening in the last ten years. This compares favorably with the national average of 6.44 (for doctorates earned in 1997) in research subspecialties of psychology. There is evidence to suggest that the time to completion is shrinking, since the average was 6.87 in the cohorts 1979-1984, but has reduced to slightly less than 6 years since. It is not clear if this is due to better mentoring, more stringent standards for timely progress to the degree at universities, or a different set of expectations by trainees. Learning more about the elements of training that affect not only performance outcomes but timely progress is an objective for the years ahead.

Fellows have received their training at over 85 different universities, almost entirely in departments of psychology. The vast majority of training settings are at Research 1 universities. Nearly three quarters of the Fellows have been women. African Americans comprise the largest ethnic minority group, followed by Latinos, Asians and a small number of American Indians. Two Caucasians have also been supported. (See table 3 for statistics on gender and ethnicity).

A panel of psychologists from a variety of specialties reviews applications. Most have substantial research experience and are located in universities where research is a major criterion of accomplishment. The strongest applicants are selected for the fellowship, and a variety of characteristics represented by the pool of applicants are considered to ensure maintenance of a broad and diverse group of trainees. There is a broad geographical distribution of MFP trainees across the United States. Table 1 provides the specific numbers on a state-by-state basis.

Table 1. Distribution of APA MFP Mental Health Research Fellows by State (1979 – 1999). Overall, 216 trainees have been funded across 36 states in the U.S. and Canada (including Puerto Rico

State	No. Fellows	State	No. Fellows
California	39	Missouri	3
New York	26	Nebraska	3
Michigan	24	Ohio	3
Massachusetts	15	Tennessee	3
Washington, DC	11	Utah	3
Pennsylvania	10	Puerto Rico	3
Georgia	8	New Mexico	2
Illinois	6	Oklahoma	2
Arizona	5	Oregon	2
Connecticut	5	Virginia	2
Hawaii	5	Delaware	1
Indiana	5	Kansas	1
Texas	5	Louisiana	1
Florida	4	Minnesota	1
New Jersey	4	Mississippi	1
Washington	4	Montana	1
Colorado	3	Rhode Island	1
Maryland	3	South Dakota	1

Table 2 lists the universities where MFP Fellows have been trained over the past 21 years, and shows that trainees are located in top research universities across the country.

Table 2. Distribution of APA MFP Fellowships Across Universities (1979 – 1999).
In all, Fellowships have been provided to 216 students across 84 different universities in the U.S. (including 3 Fellows funded at the University of Puerto Rico).

Univ. of Michigan	20	Oklahoma State Univ.	2	Purdue Univ.	1
CUNY	13	U. of Tennessee	2	Syracuse Univ.	1
Howard Univ.	10	St. Louis University	2	Texas A&M	1
UC-Berkeley	9	SUNY	2	Tulane Univ.	1
UCLA	7	Temple Univ.	2	Univ. of Albany	1
Univ. of Pittsburgh	7	UC-Davis	2	UC-San Francisco	1
Harvard Univ.	6	UC-Irvine	2	UC-Santa Barbara	1
Claremont	5	UC-Santa Cruz	2	Univ. of Chicago	1
Stanford Univ.	5	Univ. of Houston	2	Univ. of Cincinnati	1
Univ. of Hawaii	5	Univ. of Arizona	2	Univ. of Conn.	1
Univ. of Mass.	5	Univ. of Georgia	2	Univ. of Delaware	1
Fordham Univ.	4	Univ. of New Mexico	2	Univ. of Denver	1
New York Univ.	4	Univ. of Oregon	2	Univ. of Florida	1
Princeton Univ.	4	Univ. of South Florida	2	Univ. of Illinois	1
Yale Univ.	4	Univ. of Texas – Austin	2	Univ. of Illinois-Urb.	1
Arizona State	3	Univ. of Washington	2	Univ. of Minnesota	1
Clark Univ.	3	Boston College	1	Univ. of Missouri	1
Mich. State Univ.	3	Colorado State	1	Univ. of Montana	1
Northeastern	3	Cornell University	1	U. of N. Colorado	1
Northwestern	3	Emory University	1	Univ. of Rhode I.	1
Univ. of Maryland	3	Florida Intl. University	1	Univ. of S Dakota	1
Univ. of Nebraska	3	Fuller Theological Sem.	1	Univ. of Virginia	1
U. of Puerto Rico	3	George Washington U.	1	Virginia Comm U.	1
Univ. of Utah	3	Indiana University	1	Vanderbilt Univ.	1
USC	3	Jackson State Univ.	1	WA State Univ.	1
Bowling Green	2	Kansas State Univ.	1	Washington Univ.	1
Georgia State U.	2	Kent State University	1	Wayne State	1
Ohio State Univ.	2	Penn State University	1	Wright Institute	1

The major advisor is a critical aspect of the training fellows receive. Annual self-evaluations of the trainee's performance are required as well as an evaluation by the advisor. CVs of the advisors are collected to provide assurance that they are active researchers capable of providing excellent research training. Detailed information is obtained about fellows' progress including transcripts of all courses; listing of any publications, honors, and other training related experiences and accomplishments. The resulting set of indicators will enable staff to carefully assess the training related experiences and their relationship to career outcomes. It will assist in identifying appropriate measures of program success and those fellows who have achieved it. The Program continues to receive a preponderance of applications from women. The selection rate matches fairly well the ethnic, racial and gender breakdown of the applicant pool.

The program maintains a complete roster of recipients of the APA-MFP over the years. Fellows are listed by entering cohort year, with other relevant information such as degree earned, ethnicity, gender, time to degree and training institution. Table 3 summarizes this information by Cohort year. Two outcomes are clear: the graduation rate is high and the attrition rate is low. Only about six and one half percent of all fellowship recipients have withdrawn from training without receiving the degree. This is a highly and carefully selected group of trainees, and the data attest to the positive results of the selection process. Moreover, the trainees persist, with over 87% of those entering the MFP between 1979 and 1984 earning the PhD. The next five-year period is nearly as good with nearly 77% earning the PhD. Even as recently as the early 1990s, data show over a 50% graduation rate. The overall completion rate for fifteen years of entering cohorts (1979-1994) is 70%.

Table 3: APA MFP Research Fellows by Cohort year-1979-1999

Cohort Yr		No.	Entering Degree		Degree Earned				% PhD	Yrs. to Deg.
			BA/S	MA/S	Ph.D.	InTrng.	withdr*	NI**		
1	1979	24	16	8	21	0	3	0	87.50	7.08
2	80	13	6	7	12	0	1	0	92.31	6.58
3	81	10	8	2	10	0	0	0	100.0	7.30
4	82	8	5	3	5	1	2	0	62.50	6.40
5	83	7	6	1	5	0	2	0	71.43	7.00
6	84	8	7	1	8	0	0	0	100.0	6.62
7	85	14	8	6	10	2	1	1	71.43	5.80
8	86	7	6	1	5	2	0	0	71.43	6.80
9	87	11	8	3	8	3	1	0	72.73	6.13
10	88	14	9	5	10	4	1	0	71.43	5.78
11	89	8	7	1	3	4	1	0	37.50	4.75
12	90	14	8	6	10	3	1	0	71.43	6.40
13	91	9	6	3	6	3	0	0	66.67	6.33
14	92	13	10	3	6	7	0	0	46.15	5.50
15	93	9	5	4	4	5	0	0	44.44	6.25
16	94	9	7	2	2	7	0	0	22.22	5.50
17	95	6	5	1	2	3	1	0	33.33	6.00
18	96	2	1	1	0	2	0	0	0.00	
19	97	10	10	0	0	10	0	0	0.00	
20	98	14	9	5	0	14	0	0	0.00	
21	99	8	3	3	0	6	0	0	0.00	
	total	216	150	66	127	__	14	1	70.22	6.28
	%				58.80	__	6.48	.46		

*Two of those under "withdrawn" were deceased before completing their training.
** NI=No information available.

Table 4 illustrates that nearly half of the Fellows have been African American, slightly more than 25% Latina/o, and about 20% Asian Americans. A small number of American Indians and Native Hawaiians continue to be supported. This is a significant area of growth for the program. The fellowship continues to be made available to anyone who wish es to apply without regard to ethnic or racial background. However, priority is placed on underrepresented ethnic and racial minority groups. The general belief that more and better research about ethnic and racial minority groups is a continuing need, guides the program. Therefore, support has been provided to non-ethnic/racial minorities when their research and career paths warrant inclusion in the overall program mission.

Table 4: Ethnicity/Gender Statistics for APA MFP Research Fellows by Cohort

Cohort yr		Ethnicity and Gender										
		AfrAmer		AsAmer		AmerInd		Latin		White		tot
		M	F	M	F	M	F	M	F	M	F	
1	79	4	10	2	3			3	2			24
2	80	2	6	1	1				3			13
3	81	1	4		1			2	2			10
4	82		4		1	1		2				8
5	83	1	2	1					2		1	7
6	84	1	2		1	1			3			8
7	85	4	3	1	2			1	3			14
8	86	1	2		3				1			7
9	87	3	1		3		1	2	2			11
10	8	2	5				1	1	3			14
11	89		2		1			1	1			8
12	90	4	2		3		1		5			14
13	91	2	1		3	1	2		1			9
14	92	3	2		3			1	2			13
15	93		4	3					2			9
16	94	1	4	2					2			9
17	95		3	1				1	1			6
18	96	1			1							2
19	97	1	3		2			1	3			10
20	98	2	4		2			2	3		1	14
21	99	1	3						2			6
	tot	34	67	6	39	3	5	17	43	0	2	216
Tot.ethnic.			101		45		8		60		2	
% ethnicity			46.76		20.83		3.70		27.78		.93	
% female			66.34		86.67		62.50		71.67		100	72.2
Tot male												156
Tot. femal												60

Finally, the listing below illustrates the settings where MFP doctoral recipients (N=127) are employed. The dominant setting is in academic departments in universities. The majority of these graduates are in departments of psychology, but some are in business schools, some in medical schools, and others in related departments. Approximately 20 percent are distributed across business and industry, the government and human service settings. Employment information on about 30 percent of our graduates is not available. However, program capacity to obtain this information is available and this information will be obtained in the coming months. The employment pattern supports the goal of increasing the pool of mental health scientists.

University Research/Teaching: 49%
Industry: 8%
Government: 4%
Human Services: 9%
No information available: 30%

With regard to grant activity of trainees, the program database is not in a form that allows this information to be easily obtained. However, the database is currently being updated and expanded and will be able to capture grant related activity in the coming months.

Minority Fellowship Program in Neuroscience
American Psychological Association
Joe L. Martinez, Jr., Ph.D.

Description

The Minority Fellowship Program in Neuroscience (MFP) at the American Psychological Association (APA) has been in operation for 12 years. Throughout its history, the program has benefited greatly from administrative and collaborative support from the Association of Neuroscience Departments and Programs (ANDP). The purpose of this training program is to increase the numbers of underrepresented scientists entering the field of neuroscience research and teaching, and who will conduct NIMH-related research. While racial/ethnic minorities are underrepresented in all disciplines, the available data suggest that neuroscience is an area in which under-representation is most severe – especially among African Americans, Hispanics, and Native Americans. One of the strengths of this MFP program in neuroscience is the fact that it drew upon the pre-existing infrastructure and processes already in place with the APA MFP in Psychology program (in operation since 1975). Therefore, the program adopted more-or-less standardized timelines and procedures for selecting and appointing MFP in Neuroscience Fellows.

Throughout the program's history, the MFP in Neuroscience has supported 152 Fellows across a wide array of subspecialties in neuroscience including systems neuroscience, behavioral neurobiology, developmental neurobiology, cognitive neuroscience, molecular neurobiology and neuroanatomy, just to name a few. Fellows received their training across 82 different universities in the U.S. and Canada (including 4 in Puerto Rico). The vast majority of training settings are at Carnegie Research 1 Universities.

Applications for training support typically number about 35-50 per year. The program offers support for three years, and plays an active role in insuring that trainees continue to be supported by traditional funding mechanisms once they leave the MFP through to the completion of the degree by their training department. As a result, in any given year, a cohort in their third year rotates out and monies allocated previously to them become available for a new cohort. In addition, the program encourages Fellows to apply for other sources of funds, so through leave, deferment, and relinquishment of support, additional support slots may be generated. Typically, an average of eight awards are made per year. Selection ratios for the program between 14-20% attest to the competitive nature of the awards.

An advisory committee of neuroscientists from a variety of specialties reviews applications. All have substantial research and training experience and are located in universities where research is a major criterion of accomplishment. Selection of women in the program has been excellent (54% Female; 46% males). African Americans and Hispanics represent the majority of Fellows supported (49% Hispanic; 45% African American). Five Asian Americans and 4 American Indians have been supported through the MFP in Neuroscience. The details of these numbers are presented in accompanying tables and graphs.

Table 1 provides the specific numbers of trainees across the United States on a state-by-state basis, illustrating a broad geographic representation. Table 2 lists the universities where MFP Fellows have been trained over the past 11 years. Trainees are located in top research universities across the country.

Congruent with the MFP in Psychology, the major advisor is a critical aspect of the training fellows receive under this program in neuroscience. As in the program in psychology, self-evaluations are required annually of trainees as well as an evaluation by the advisor. And CVs of the advisors are collected in order to ensure that they are active researchers capable of providing excellent research training. In addition, detailed information about Fellows' progress including transcripts of all courses; listing of any publications, honors, and other training related experiences and accomplishments, is obtained. Tracking instruments include indicators that enable staff to carefully assess the training related experiences and their

relationship to career outcomes. Information gathered assist staff in identifying appropriate measures of program success and those fellows who have achieved it.

Table 1: Distribution of APA MFP in Neuroscience Fellows by State (1988-1999)

Overall, 152 trainees have been funded across 34 states in the US and Canada (including Puerto Rico)

State	No. Fellows	I. State	No. Fellows
California	24	Michigan	3
Massachusetts	11	Nebraska	3
Pennsylvania	11	Ohio	3
Illinois	8	Oregon	3
Tennessee	8	Wisconsin	3
Georgia	7	Alabama	2
New York	7	Colorado	2
Washington, DC	6	Louisiana	2
New Jersey	5	Maryland	2
Texas	5	Missouri	2
Virginia	5	South Carolina	2
Arizona	4	Iowa	1
Florida	4	Kentucky	1
North Carolina	4	New Mexico	1
Puerto Rico	4	Rhode Island	1
Connecticut	3	Washington	1
Indiana	3	Quebec, Canada	1

Table 2. APA MFP in Neuroscience: Distribution of Fellowships Across Universities (1988 – 1999).

Fellowships have been provided to 152 students across 82 different universities in the U.S. and Canada (including 1 Fellow at McGill Univ. in Montreal, Canada and 4 Fellows at the University of Puerto Rico).

UNIVERSITY	#	UNIVERSITY	#	UNIVERSITY	#
Howard Univ.	6	UC-San Diego	2	Princeton Univ.	1
UC-Berkeley	6	Univ. of Alabama	2	St. John's University	1
Univ. of Pittsburgh	6	Univ. of Cincinnati	2	SUNY-Binghamton	1
Harvard Univ.	4	U. Of Colorado-Boulder	2	Texas Tech University	1
Meharry Medical C.	4	U. Of Illinois - Chicago	2	Tufts University	1
Northeastern Univ.	4	Univ. of Michigan	2	UC-Davis	1
Rutgers Univ.	4	Univ. of Oregon	2	UC-San Francisco	1
Univ. of Arizona	4	Univ. of South Florida	2	Univ. of Chicago	1
U. Of Puerto Rico	4	A. Einstein C. of Med.	1	Univ. of Connecticut	1
Univ. of Virginia	4	Baylor College of Med.	1	Univ. of Florida	1
Stanford Univ.	3	Boston Univ.	1	Univ. of Georgia	1
UC-Irvine	3	Brown Univ.	1	Univ. of Illinois – Urbana	1
UC-Santa Barbara	3	Clark Univ.	1	Univ. of Iowa	1
Univ. of Nebraska	3	Columbia Univ.	1	Univ. of Kentucky	1
U. Of North Carolina	3	Cornell Univ.	1	Univ. of Maryland	1
Univ. of Tennessee	3	Duke Univ.	1	U. Of Missouri-Columbia	1
Univ. of Wisconsin	3	Florida State Univ.	1	Univ. of North Texas	1
USC	3	George Mason Univ.	1	Univ. of New Mexico	1
Cal. Inst. of Tech.	2	Hahnemann Univ.	1	Univ. of Pennsylvania	1
Emory Univ.	2	Indiana Univ.	1	Univ. of Texas – Austin	1
Georgia State U.	2	Johns Hopkins U.	1	Univ. of Texas – Dallas	1
New York Univ.	2	McGill Univ.	1	Univ. of Washington	1
Northwestern U.	2	Medical Col. of Georgia	1	Vanderbilt Univ.	1
Purdue Univ.	2	Miami Univ.	1	Washington University	1
So. Illinois U.	2	Mass. Inst. Of Tech.	1	Wayne State	1
Temple Univ.	2	Oregon State Univ.	1	Wesleyan University	1
Tulane Univ.	2	Penn State Univ.	1	Yale University	1
UCLA	2				

The program maintains a complete roster of recipients of the APA-MFP over the years. Fellows are listed by entering cohort year, with other relevant information such as degree earned, ethnicity, gender, time to degree and training institution. Table 3 summarizes this information by Cohort year. Two outcomes are clear: the graduation rate is high and the attrition rate is low. Only about 15% of all fellowship recipients have withdrawn from training without receiving a degree in neuroscience research. However, good anecdotal evidence is available that a portion of these 15% goes on to get advance degrees in other fields (some related to the objectives of the MFP program, such as education). This is a highly and carefully selected group of trainees, attesting to the positive results of the selection process used and summer enrichment activities. Moreover, the trainees persist and eventually go on to earn their doctorates.

The time to completion of the degree averages 5.42 years (Table 3). Learning more about the elements of training that affect not only performance outcomes but timely progress is an objective of the program in the years ahead. Table 3 also illustrates that nearly half of the Fellows have been African American (44.7%) and Latino (49.3%). A small number of American Indians (2.6%) and Asian Americans (3.3%) continue to be supported. The fellowship continues to be made available to anyone who wishes to apply without

regard to ethnic or racial background. However, priority is obviously placed on underrepresented ethnic and racial minority groups in neuroscience research. Thus, recruitment is heavily conducted among African Americans and Hispanics.

Table 3: Summary of MFP in Neuroscience Predoctoral Fellows by Cohort Year (1988-1999)

Cohort Year		Number	Entering Degrees		DEGREE EARNED				% PHD	Time to Degree(yrs)
			BA/BS	MA/MS	PHD	In trng	withdrawn*	NI		
1	1988	21	16	5	15	0	6	0	71.43%	6.13
2	1989	15	12	3	12	2	1	0	80.00%	5.75
3	1990	14	11	3	7	4	3	0	50.00%	6.00
4	1991	12	11	1	8	1	3	0	66.67%	5.29
5	1992	8	5	3	3	3	2	0	37.50%	5.33
6	1993	10	9	1	7	1	2	0	70.00%	5.14
7	1994	11	9	2	2	8	1	0	18.18%	3.50
8	1995	20	18	2	3	16	1	0	15.00%	5.33
9	1996	4	4	0	0	4	0	0	0.00%	na
10	1997	4	4	0	1	2	1	0	25.00%	8.00
11	1998	11	7	4	0	10	1	0	0.00%	na
12	1999	6	6	0	0	6	0	0	0.00%	na
	total	136	112	24	58	57	21	0	42.65%	5.42
					42.65%		15.44%	0.00%		
			1988-1993	1994-1999						
			65.00%	10.71%						

Cohort Year		Ethnicity & Gender								
		AfAm		AsAm		AmInd		Latin		
		M	F	M	F	M	F	M	F	Total
1	1988	2	4	2	1	0	0	5	7	21
2	1989	2	6	0	1	0	0	4	2	15
3	1990	3	4	0	0	0	0	1	6	14
4	1991	4	4	0	0	0	0	2	2	12
5	1992	1	4	0	0	0	0	2	1	8
6	1993	2	3	0	0	0	1	2	2	10
7	1994	2	4	0	0	0	0	2	3	11
8	1995	2	4	0	0	0	2	6	6	20
9	1996	1	0	0	0	0	0	2	1	4
10	1997	3	1	0	0	0	0	0	0	4
11	1998	2	2	0	0	0	0	5	2	11
12	1999	0	1	0	0	1	0	3	1	6
	Postdocs*	4	3	0	1	0	0	5	3	16
	Totals	28	40	2	3	1	3	39	36	152
	total/ethnicty		68		5		4		75	152
	%/ethnicity		44.74%		3.29%		2.63%		49.34%	
	%Female		58.82%		60.00%		75.00%		48.00%	37.96%
	Total female									82
	Total male									70
* Black females includes one Egyptian										

Finally, this section describes the settings where MFP doctoral recipients are employed. Forty eight percent (48%) are currently completing post-doctoral training in medical school/health science settings or

in universities. This is quite consistent with the career trajectories of many neuroscientists at this stage of career development. The next largest group can be found conducting research//teaching in university settings as full-time faculty (19%). Others are engaged in either clinical services (7%) or research (8%) in medical/health science settings. Employment information is not available on about 18 percent of the graduates, but capacity to obtain this information is available and this information will be collected in the coming months. Overall, post-graduate placement data indicate that Fellows are indeed engaged in careers that are consistent with the aims of NIMH and the specific training program objectives. With regard to grant activity of our trainees, the program database is not in a form that easily allows this information to be obtained. However, the database is currently being expanded and will be able to report on grant related activity in the coming months.

Career Success

The program leaders are not able at this time to provide a systematic accounting of career success, or even to confidently define exactly what it entails. Nonetheless, available program data show that about 50% of - program graduates pursue academic teaching and research careers. If only those about whom information is available are considered, the percentage going into academic positions is 71%. MFP program staff knows that former fellows publish journal articles, write books, make presentations, apply for and obtain research grants. The staff also knows that fellows make contributions in a variety of ways, including through administrative efforts in foundations and with the government. Some teach in four-year colleges, some work in foundations and institutes that apply social and behavioral science in ameliorating social problems. Documenting the range of professional settings and activities and their impact is a goal of the Program's ongoing evaluation efforts.

General Discussion

The impact of the NIMH Minority Fellowship Programs on the national pool of minority science scholars, Academicians, mental health service providers, researchers in academic institutions, industry and government and other settings, is undeniable. Most graduates appear to be particularly successful in moving into careers in teaching positions. A high proportion of graduates from the MFP in Psychiatry (79%) are reported to enter academia with 93% of those being active researchers. The MFP in Sociology reports that 71% of graduates move into academic/teaching positions, the vast majority of which involve research, while an additional 15% enter research only positions. Roughly 50% of psychology and neuroscience graduates and 66% of Social Work graduates enter academic teaching and research. Table 1 below summarizes some statistics on five of the MFPS. More systematic evaluation and follow up of programs is needed to fully assess the trainee career outcomes in these programs.

Table 1: Summary Data on 5 UMFPs (reported October, 1999)

Inst.	Yrs. Active	No trainees entered	No. grad.	# of graduates earning higher degree					ave.no. of yrs. to degree
				MSW	DSW	PhD	MD	Other	
CSWE Soc. Wk.	24	254	153 (60%)	2	24	128 +1Ed.D	NA	23*	14**
ASA Sociology	26	394	215 (55%) ***	NA	NA	215	NA	___	6.6
APA Psychology	21	216	127 (59%) ****	NA	NA	127	NA	___	6.2
APA Neurosci	12	136	58 (43%)	NA	NA	58	NA	57 in trng	5.4
APA Psychiatry	10	51	38 (75%)	NA	NA	-->	30 (MD) +5 (PhD/MD)	+3 (MD/MPH)	--

*Writing dissertations (40%)
**The Task Force on Social Work Research (1991) found a 14 year average span between the Masters Degree and the Ph. D, with intervening years spent in professional practice.
***The completion rates for 4 cohorts between 1975-1994 range from 50%-75%. Approximately 40% (N=120) are still pursuing their degrees.
****Over 80% of trainees entering prior to 1990 have earned the Ph. D.; for those entering between 1979 and 1984, over 87% earned the Ph. D.

Despite the positive outcomes, important questions remain regarding what are the ultimate goals and responsibilities of the MFP programs. Trainees are entered and the vast majority completes their training. Students are trained in the best institutions across the country. Completion rates are high and attrition, as a rule, is low. And even when students leave training, they often return to complete graduate and post-graduate training. Some MFP programs graduate students in fewer years than do other, non-MFP training programs in the same disciplines. However, the number of graduates from the MFPs (and the other NIMH training programs) who pursue research careers is not what was hoped for, given the goals of the training programs. The benefit or loss to the NIMH and the country when training dollars yield outcomes such as people in service/treatment settings or in academic, teaching roles, rather than in research needs full debate. The NIH/NIMH needs to make clear their expectations in terms of what the programs are training students to do. If active research is the criterion for success, then NIMH needs to work with the training programs to determine what needs to be done by whom and when to increase the rate of success. Program Evaluation needs to be an integral part of these activities to inform the Federal Government about how well its efforts are paying off.

Financial constraints are noted repeatedly as a barrier to realization of research careers for many students--beginning with those entering at the COR level and continuing into graduate programs. These barriers need to be assessed and interventions put in place to help remove them.

Long-term Issues for Further Consideration

1. **Develop innovative strategies for funding minority research training , such as the use of the R25.**

2. **Given that the size and duration of stipends may not be adequate for people who have other financial problems as well as other financial lures and incentives; look into the possibility of increasing the size and duration of stipends. Positive action here could serve as added incentives to minority students.**

3. **More flexibility with the use of the T32 (and T34) mechanism could result in getting more minorities into training. Consideration should be given to allowing/encouraging interactive T32s: this alternative mechanism could not only facilitate getting more minorities into training programs, but could encourage the sharing of outstanding minority faculty (to serve as critical role models/mentors) and outstanding research facilities, and support of a sufficient mass of ethnic/minority students to permit networking and social support where the same would be extremely difficult if not impossible otherwise.**

4. **Pursue the possibility of rewarding institutions who successfully recruit a critical mass of ethnic/minority faculty and attract and graduate ethnic/minority trainees (rewards might be in the form of additional TRE support to cover faculty time, supplemental stipends for trainees with special hardship needs, etc.**

5. **Consider expanding post-doctoral Research Training: Given the complexity of research today, it appears that most trainees need to have postdoctoral training and supervised research career development if they are to develop their full capacity to do independent, innovative research. The mechanisms to support such training and career development exist, but apparently they are not being fully utilized. Part of this problem may be due to the way in which graduate and residency education is structured. Research training programs need to and can, work with departments and disciplines to help restructure the training so it will address the needs of their trainees.**

6. **Assess the adequacy of the spread of science being undertaken by trainees across the various graduate and post-graduate training programs. Communicate priority-training areas, which are in line with research priorities, (such as health disparities).**

7. **NIMH should pursue partnering with other agencies and constituencies in the interest of ethnic/minority research training.**

8. **Students (minority and non-minority) are being trained on regular R01 grants (in addition to minority supplements): the contribution of this mechanism to research training needs to be assessed.**

9. **Develop multi-institute/center funding strategies for research and evaluation of effectiveness of training interventions.**

All of the issues subsumed under the "heading of "long-term" issues/recommendations need further consideration/discussion. For example, desirable characteristics of "flexible" training mechanisms needs to be carefully thought through with input from stakeholders including the scientific community, Federal program staff, NIH policy staff and relevant others. In addition, some individuals/institutions have used non-minority-focused mechanisms in creative ways to recruit and train underrepresented racial/ethnic minorities

and these may serve as role models for others. The NIMH needs to consider how it might maximize the use of these mechanisms in the training of underrepresented minorities.

A series of workshops and/or conferences will be the likely venue in which further deliberations and information gathering occur. A planning committee made up of Council members, staff and others as advisable, will recommend key participants for each activity. The phasing of the next activities is likewise to be decided. In the meantime, staff recommend that the issues cited below be undertaken presently:

NIMH Staff Recommendations for Short Term Actions to Help Improve Training Outcomes

1. **Given the number and variety of minority training programs at NIMH and other NIH Institutes whose science overlaps with that of the NIMH, new and flexible initiatives co-sponsored across institutes need to be developed to help increase options for vertical and horizontal linkages in training programs (NIGMS and NINDS should be early considerations).**

2. **Encourage other Institutes/Centers to adopt long term training pipeline strategies in order to share to a greater extent in the training of future biomedical, behavioral researchers**

3. **Conduct outreach activities for enrollees at each stage of training to inform them of options at subsequent training levels.**

4. **Follow-up trainees on Minority Research Supplements and hold technical assistance workshops to help ensure that more of these investigators are aware of and take advantage of the various research funding mechanisms available for continued career development**

5. **Provide funds for training program evaluation.**

6. **Assess whether increased use of other specialized initiatives (e.g., 5-6 week summer training programs (R25) with cohorts of students) would strengthen the base of high school and undergraduate students.**

7. **Develop ways to link early level training mechanisms with those at subsequent higher levels of training and aggressively communicate the career ladder mechanisms to the field.**

8. **Minority Dissertation Grants and Minority Research Supplements for undergraduate and Graduate Research Assistants could serve as an important bridge between the training programs and graduate training programs: The institute should find creative ways to link the programs.**

9. **Assess the extent of use of the K01 for New Minority Faculty in terms of what institutions tend to encourage its use (have funded faculty) while others are not enthusiastic in encouraging its use. Determine what might be done to make the mechanisms more attractive, then revise it accordingly.**

10. **In light of the above, revisit the Omnibus Minority Fellowship Program Announcement and revise as indicated to strengthen the program.**

11. **Sponsor more national and local (at training sites) workshops where:**

    - **Training PIs, mentors and trainees can learn about what programs are available at the next training level and get technical assistance on the application process;**

- **Training PIs, Federal staff, representatives from relevant scientific associations, societies, etc., can exchange information to facilitate creative curriculum options and development;**

- **Participants learn what cutting edge research issues will need to be addressed in the coming years (This information could be used to help shape innovative core curricula);**

- **Professional associations/societies make known their training programs/opportunities and special interest in advancing their scientific disciplines relevant to mental health research; and**

- **Potential partnerships between/among minority/majority and other interested institutions/agencies are discussed/facilitated**

12. Plan and hold workshops to encourage and facilitate the cross-fertilizations of ideas with regard to training needs addressing such crosscutting issues as:

- **<u>Evaluation</u> -(develop shared goals and objectives and mechanisms for evaluating outcomes of the programs, with regard to trainees and mentors-- longitudinally;**

- **<u>Core curricula</u>-where there might be avenues for shared infrastructure-to impart training in the areas such as ethics, research design and methodology, statistics, etc.;**

- **<u>Opportunities for Distance Learning and Video Conferencing</u> (this would facilitate sharing of different perspectives on issues from other disciplines expeditiously and cost-effectively);**

- **<u>Racial/Ethnic Research Issues</u> in areas that disproportionately affect the different ethnic/minority communities (this could impact on curricula development) and,**

- **<u>Training Infrastructure Support</u> (this needs to include representatives from granting agencies but importantly, those at the local level who control and manage the resources that go into supporting trainees and young investigators.**